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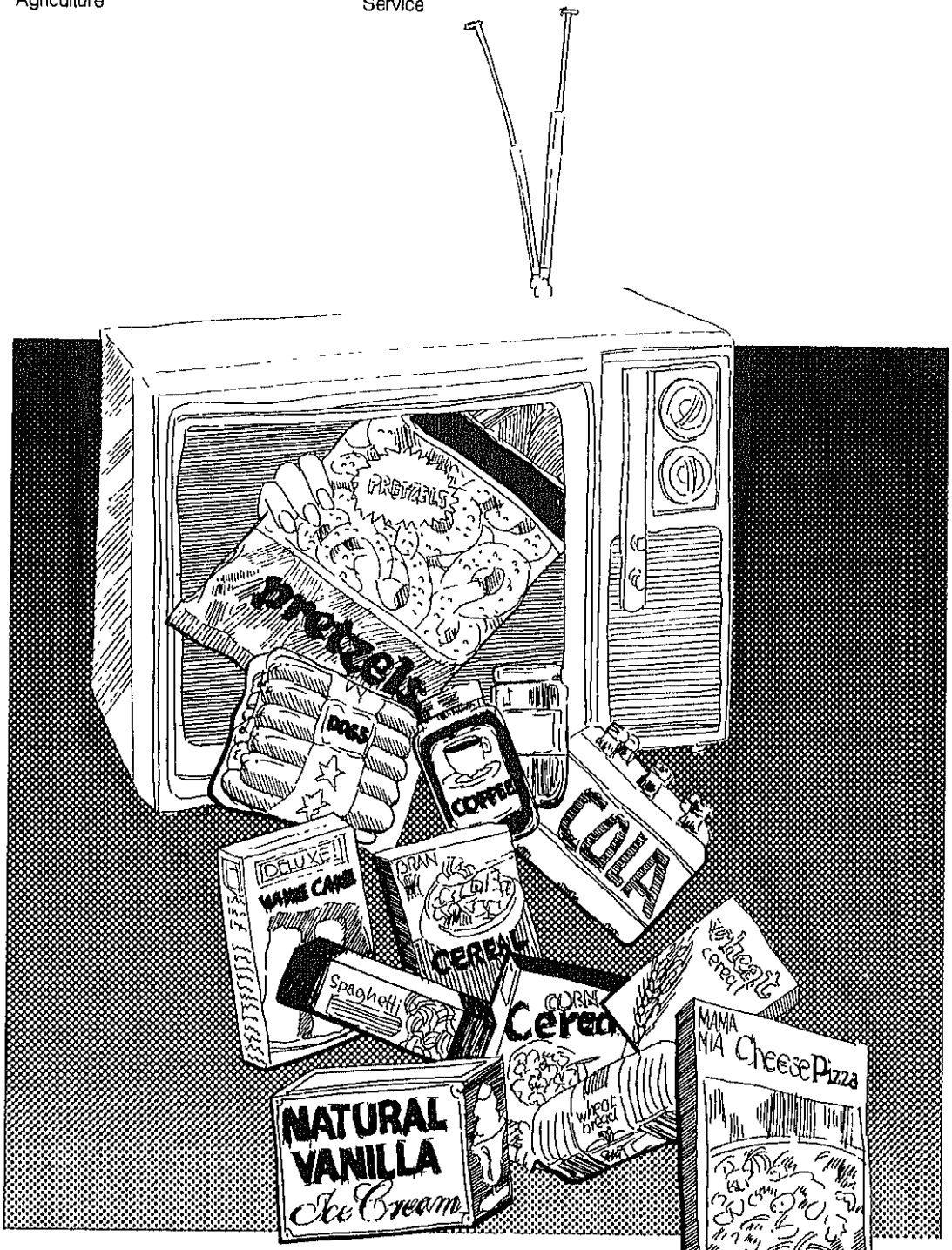

In this issue:

Mass Media Food Advertising

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Mass Media Food Advertising

This issue of the National Food Review takes an indepth look at the U.S. food marketing system and the use of mass media advertising. The food marketing system uses more national media advertising than any other industry. In 1978, food manufacturers, food retailers, and food service companies spent $2.5 billion on advertising—more than twice the amount spent on automobile and gasoline advertising.

Ninety percent of the money spent for mass media advertising is for television. The remainder goes to newspapers, magazines, newspaper supplements, network and spot radio, and outdoor billboards.

This article looks at how the advertising budget for the food marketing system differs from the budget for the nonfood system. It also examines how much each of the different media spends on food advertising and how such advertising affects the consumer. Please turn to page 10.

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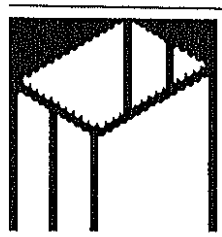

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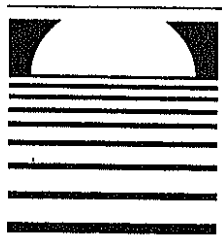

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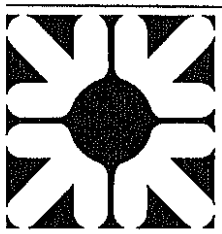

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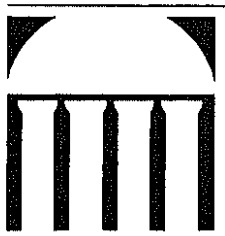

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Food Spending and Income

Anthony E. Gallo
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Consumers dipped into their savings accounts and borrowed heavily to finance purchases, sharply increasing their personal outlays despite a decline in real per capita disposable income during the third quarter of 1979.[1]

Third quarter total disposable personal income rose about $37 billion, to $1,638 billion, 2 percent above the second quarter of 1979. But personal consumption expenditures rose more than 3 5 percent, or $52 billion. The difference was partially financed by the decline in savings from $86 billion to $71 billion. The savings rate fell from 5.4 to 4.3 percent, the sharpest quarterly drop since the Korean conflict.

The quarterly increase in personal consumption expenditures (PCE) was mostly due to inflation and population increases. PCE rose about 1 percent per capita, discounting for price increases, while adjusted disposable personal income (DPI) per capita dropped slightly. The quarterly increase in PCE largely reflected greater expenditures for housing and household services. Durable goods sales continued weak, as a gain in new car sales was largely offset by a drop in used car volume. Nondurable goods were fractionally higher than during the second quarter.

Compared with the third quarter of 1978, PCE were about 12 percent higher. But when deflated for price increases and population growth, they were only about 1 percent more. Both durables and nondurables were lower, but they were more than offset by a 3½ percent gain for services.

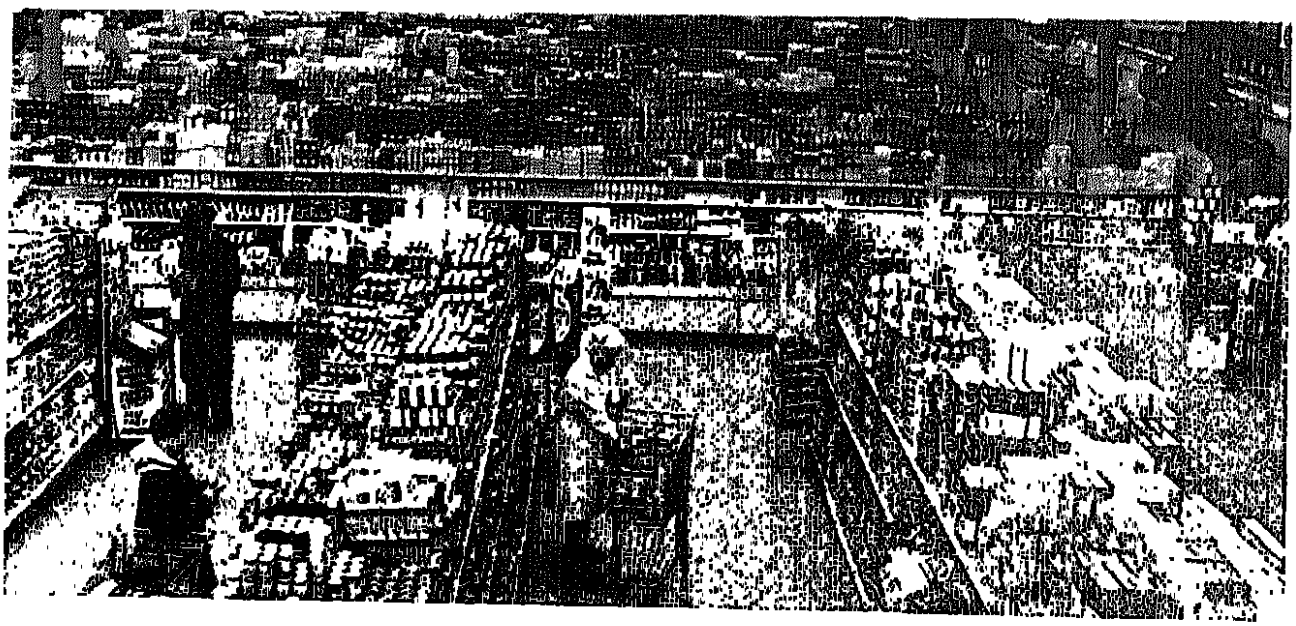
Food Spending

U.S. food spending took two turns during the third quarter of 1979. First, spending for food at home reached the $200-billion mark 7 years after reaching the $100-billion level. Assuming no change in the product mix since 1972, only $9½ billion of that increase was due to higher volume; $92 billion was the result of higher prices.[2] When adjusted for increases in the population, per person food-at-home spending in 1972 dollars was about 1 percent more, about the same as the change in the per capita food consumption index.

The doubling of food-away-from-home spending during that 7-year period included a 20-percent increase in real terms. However, most of this change oc-

[1]Preliminary data from Department of Commerce.

[2]If consumers have changed the mix of products purchased from higher to lower (or lower to higher) priced items, the $8-billion estimate understates (or overstates) the increase in volume.



curred before 1979. Third quarter expenditures in restaurants, at $66.5 billion, were down from the first quarter of 1979. When deflated for higher prices, they declined for the third consecutive quarter. The slowdown in the economy, as reflected by the drop in real per-person DPI, has adversely affected expenditures in away-from-home eating places. Consumers instead increased their spending for food at home about 1.8 percent above the second quarter. Since food-at-home prices rose only fractionally, most of that increase reflected higher volume. In contrast, the 1.7-percent quarterly advance in food-away-from-home spending reflected higher prices while real volume dropped.

The $268 billion spent for all food was about 10 percent higher than during the third quarter of 1978, but only 1½ percent of that gain was due to increased volume. A 3.6-percent yearly advance in real food-at-home expenditures was partially offset by a 3.8-percent decline in food-away-from-home volume.

Despite sharply higher prices, the percent of disposable personal income spent on food during the third quarter dropped slightly from a year earlier, from 16.5 percent to 16.3 percent. This ratio, varies with family income.

Other nondurable goods took up a significantly higher portion of DPI, largely due to sharp increases in gasoline and oil prices. The percent of DPI allocated to durable goods plunged sharply, primarily because of a drop in motor vehicles and parts expenditures. Offsetting was a major increase in the portion of DPI allocated to services, largely influenced by higher housing prices. ■

Disposition of Disposable Personal Income, 3rd Quarter, 1979 and 1979

Item	1978 3rd quarter	1979 3rd quarter
	Percent	
Food	16.5	16.3
At home	12.3	12.3
Away from home	4.2	4.0
Other nondurable	19.8	20.5
Durable	13.9	13.0
Services	42.4	43.4
Personal consumption expenditures	92.6	93.2
Savings	4.8	4.3
Other	2.6	2.5
Disposable personal income	100.0	100.0

Source: Derived from Department of Commerce data

1979 Food Spending Highlights

The Department of Commerce released preliminary data on fourth quarter 1979 and full year 1979 income and food spending data as this issue went to press. The next issue of the *National Food Review* will contain a detailed analysis of these trends. The Department of Commerce emphasized that the estimates are subject to revision.

Major Features in 1979:

Food spending averaged about $268 billion, about 11 percent above 1978.

- Food-at-home spending averaged $200 billion for the year, 12 percent more than 1978. Food-away-from-home spending, at $67 billion, was 9½ percent above last year. Much of this change reflects population growth and inflation.
- Per capita food spending for food at home rose from $827 to $911 in 1979.
- Per person spending on away-from-home eating advanced from $283 to $305 in 1979. When adjusted for price increases, per person food-at-home spending rose about 1 percent. However, real away-from-home food spending declined about 2½ percent on a per capita basis.
- The percent of income spent on food averaged 16.4 percent, slightly below the 1978 figure.
- Fourth quarter 1979 food spending was about $279 billion, of which $210 billion was spent on at-home eating.

USDA Food Programs

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The stigma of using food stamps rather than cash and the need to apply for food stamps and welfare assistance at different locations have been cited as major deterrents to widespread participation in the Food Stamp Program by the elderly (age 65 and over).

A 1-year demonstration project beginning in April 1980 may determine whether more qualified elderly people would participate if cash were used instead of stamps. The Food Stamp Act of 1977 authorized this test of providing cash rather than food stamps for all persons over 65 as well as for recipients of Supplemental Security Income (SSI) benefits. Eight sites will be selected for the study.

In addition, two methods of certification will be tested. At some sites participants will continue to be certified eligible for food stamps at the local welfare office. At the remaining sites, information for certification will be collected from the applicant at the Social Security District Office and forwarded to the Welfare Office for final certification. Participants at the latter sites then need only apply at one location for food stamps and welfare assistance.

This test project is the latest of continuous efforts to improve the system. In January 1979, the requirement that participants pay for a portion of their stamp allotments was removed. Elimination of the purchase requirement (EPR) is designed to encourage participation by the very needy, who may have previously lacked the financial resources necessary to make the required cash purchase. And the EPR enables working households to receive stamps without committing a large share of their earned income, table net income, eliminated automatic eligibility for Supplemental Security Income recipients, and reduced the number of allowable deductions.

Secretary of Agriculture, Bob Bergland, in testimony before the House Agriculture Committee, noted that the rural poor and the elderly are the chief beneficiaries of changes in the Food Stamp Program (FSP). The number of elderly households in the program increased by 32 percent.

The number of persons participating in the FSP continued to increase during the fourth quarter of 1979. Preliminary data show 17.9 million persons were receiving benefits, 0.9 million more than in the previous quarter. The FSP has grown considerably under the combination of rising food costs, slower economic growth, and elimination of the purchase requirement. Participation is 4.1 million greater than during the same period a year ago.

Between 500,000 and 700,000 people were dropped from the program when the maximum limits for eligibility were lowered. However, the net increase in participants and the increasing benefit levels resulting from higher food costs have combined to increase program costs. Coupons worth $1,737.6 million were distributed in the fourth quarter of 1979, compared with $1,117.0 million in the fourth quarter of 1978.

Program costs in fiscal 1979 exceeded by $600 million the $6 billion "cap" on FSP spending adopted by Congress in 1977. The unexpected spending was due mainly to high levels of inflation and unemployment. Each 1-percent increase in unemployment adds an estimated 750,000 people to food stamp rolls. Rising unemployment and continued food price increases are expected to cause costs of the FSP to reach $8.3 billion in fiscal 1980.

Child Nutrition Programs

Federal cash expenditures for the Child Nutrition Programs totaled $816.8 million during the fourth quarter of 1979. The National School Lunch Program (NSLP) is the largest of the child-feeding programs, with participation exceeding 26 million. Cash expenditures for the program amounted to almost $655 million during the fourth quarter of 1979. This is 8.6 percent more than for the same 3-month period in 1978.

In addition to cash, schools receive commodities through USDA's commodity distribution programs. The Federal purchase of excess agricultural commodities began in 1935 as a means of supporting farm income. Once the only source of public food relief, the commodity distribution programs have largely been supplanted by cash assistance. Schools received 93 percent of the total commodity distribution in fiscal 1978, while individuals received only 7 percent.

The value of commodity donations to schools and child-care institutions was $200.2 million during the fourth quarter of 1979, of which $194.9 million was distributed through the NSLP.

Surplus high-protein foods, such as canned meat, peanut butter, and dry milk, are supplied to low-income pregnant and nursing women and preschool children under the Commodity Supplemental Food Program. "Food prescriptions" valued at $4.0 million were distributed to 99,200 participants during the fourth quarter of 1979, down from 98,206 during the same quarter in 1978.

Participation in the Commodity Supplemental Food Program has continued to decline since the initiation of the Special Supplemental Food Program for Women, Infants and Children (WIC) in 1974. The WIC program provides participants either with vouchers redeemable

at participating retail food stores for specified foods, or with a federally specified food package. In the fourth quarter of 1979, food and administrative costs for the program totaled $158.6 million, up from $117.5 million during the same quarter in 1978. Program participation has increased from 1.3 million to 1.7 million persons during the same period.

USDA recently announced a change in the rule for allocating food assistance funds to participating State agencies for the WIC program. Funds are currently distributed on the basis of a State's infant mortality rate and the number of children in a State agency under 5 years of age whose family incomes are at or below 200 percent of nonfarm poverty level. The regulations provide a new method for computing the number of children.

The level of program funding in fiscal 1980 will be limited. States with a fourth-quarter annualized food grant of $500,000 or less are limited to a 50-percent increase over their fourth-quarter funding.

Regulations have also been announced which provide new menu options for school lunch managers. Minimum requirements for a Type A lunch specify the serving of one slice of whole grain enriched bread or equivalent. Under the new regulations, rice, pasta, and cereal grains such as bulgur and corn grits may be served as bread alternates. Thus, local and ethnic preferences may be incorporated into school meals. To reduce the percentage of lunch calories derived from fat, schools are now required to offer unflavored lowfat milk, skim milk, or buttermilk, in addition to whole milk.

The new rules also allow schools or State agencies to design programs for involving students and parents in school lunch activities. ■

Personal Consumption Expenditures for Food: 1929-1979

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This marks the 50th consecutive year for the Department of Commerce to report personal consumption expenditures for food, a measure of food spending widely used, but frequently misinterpreted. The purpose of this analysis is to show what the series measures and how it is derived.

What Is Measured?

The Commerce Department series is *not* a measure of total food spending in the United States in any given time period (quarterly or annually), but rather is a measure of personal consumption expenditures (PCE) for food. The difference is substantial.

The food expenditures data are part of total personal consumption expenditures, which along with gross private domestic investment, net exports, and Government purchases comprise the Gross National Product of the United States. To avoid double counting, which would falsely inflate the Nation's output, only those products and services which are consumed in final form are included.

Within the food-at-home category, the PCE includes:

- Food purchased for off-premise consumption (home use). The criterion used for determining this component is the type of retail establishment at which it is purchased.
- Food produced and consumed on farms. Since this food is produced, it is considered a part of the farmer's income; since the food is consumed, it is considered a part of the farmer's purchases. Thus, in effect, the farmer is purchasing and then consuming the food he has produced.

Within the away-from-home category the PCE includes:

- All meals and nonalcoholic beverages purchased for away-from-home eating (including children's payments for the School Lunch Program). The type of retail establishment is the determining criterion, and tips are included.
- Food furnished military and civilian personnel. This food is considered a part of the income of the service-person or employee and becomes a part of the PCE. An example would be food eaten in a subsidized cafeteria owned by a private business firm.

What Is Not Included?

The bulk of food spending excluded from PCE, but included elsewhere in the Gross National Product is not included in the food-away from-home category, such as:

- Business and Government purchases of meals. In order to avoid double counting, business purchases of meals, such as those bought on travel or business entertainment, are not included in the food-away-from home category of the PCE. Instead, these meals are included as a part of the final product. Meals purchased by an employee of an automobile firm would later show up in purchases of durable goods since the cost of the meal would be reflected in the price of the automobile. In the case of a Government employee, the cost of meals is included under current Government purchases of foods and services.

The value of business and Government purchase of meals is estimated to be roughly 25 percent of food eaten on premise. This amount is deducted from total purchases of food in eating and drinking places to come up with personal expenditures for food eaten "on premise."

- Meals served hospital patients and persons in other institutions are considered a part of hospital expenditures, and fall under PCE for services. Meals served prison inmates are considered a

Personal Consumption Expenditures for Food in Relation to Dispoeable Income,[1] 1929–1979

Yaar	Disposable Personal Income	At Home[2]	Away From Home[3]	Total[4]
		Billion Dollars		
1929	62.3	16.4	3.2	19.5
1930	73.7	14.9	3.0	18.0
1931	63.6	12.0	2.7	14.7
1932	46.6	9.1	2.3	11.4
1933	45.5	9.4	1.5	11.9
1934	52.1	10.3	1.9	12.2
1935	56.4	11.4	2.2	13.6
1936	66.2	12.8	2 5	15.3
1937	70.9	13.5	2.9	16.5
1938	65.1	12.9	2.6	25.6
1939	69.9	12.8	2.9	15.7
1940	75.2	13.4	3.1	16.6
1941	92.0	15.3	3.8	19.2
1942	116.4	16.2	5.1	23.3
1943	132.9	20.4	7.0	27.4
1944	145.4	21.5	8.3	29.8
1945	149.0	23.3	9.9	33.2
1946	196.6	29.5	9.5	39.0
1947	188.4	34.6	9.2	43.7
1948	167.4	37.0	9.3	46 3
1949	167.1	35.7	9.2	44.9
1950	205.5	36.6	9.4	46.0
1951	224.7	41.1	11.0	52.1
1952	236.4	43.1	11.6	54.7
1953	260.7	43.8	11.7	55.5
1954	255.7	45.0	11 5	51.5
1955	273.4	46.4	11.7	56.1
1956	291.3	46.3	12.1	60.4
1957	306.9	51.3	12.6	63.9
1958	317.1	53.9	12.7	66.7
1959	336.1	55.3	13.5	66.7
1960	349.4	56.2	14.2	70.5
1961	362.9	67.3	15.0	72.4
1962	383.9	57.8	16.1	33.9
1963	402.8	58.8	17.0	75.7
1964	437.0	62.4	18.0	80.2
1985	472.2	66.8	19.0	66.8
1968	510.4	72.4	20.7	92.6
1967	544.6	74.0	21.0	95.0
1966	586.1	79.5	23.2	102.7
1969	630.4	84.7	24.8	109.6
1970	685.9	91.6	26.8	118.6
1971	742.8	94.2	28.9	123.1
1972	801.3	100.6	30.1	130.6
1973	901.7	112.9	33.9	146.8
1974	946.6	126.4	38.4	166.9
1975	1066.6	140.9	43.8	184.7
1976	1184.5	150.9	49.4	200.2
1977	1305.1	162.7	55.2	217.9
1978	1456.4	179.3	61.4	240.7
1979[5]	1804.0	200.0	66.0	266.0

[1] Data of the Department of Commerce in the *Survey of Current Business* Omits alcoholic beverages, food donated by Government agencies to schools and needy persons, and non personal spending for food such as business purchases of meals, food furnished inmates of hospitals and institutions,and food included with transportation tickets and camp fees

[2] Includes food consumed on farms where produced.

[3] Includes food served to the military and employees of hospitals, prisons, and food service establishments

[4] Figures may not add due to rounding.

[5] Projected.

Note: For historical data, turn to pages 56 - 57

part of Government expenditures.

■ Food included with transportation tickets and camp fees is included as a part of the PCE for those services.

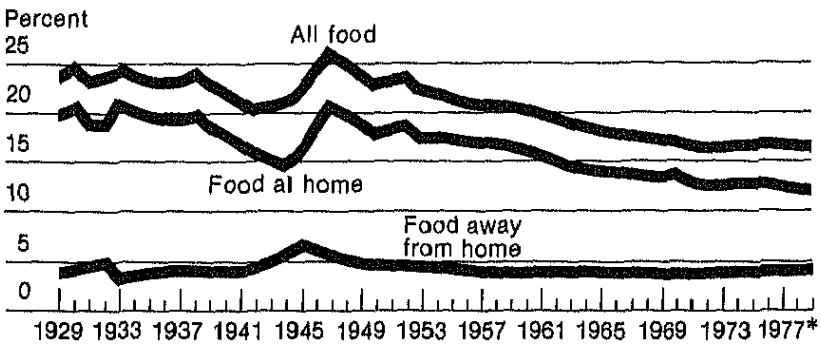
■ Food distributed by Government agencies essentially is included in changes in Commodity Credit Corporation inventories under Government purchases of foods and services. In 1978, this amounted to about $600 million, the bulk of which went to the School Lunch Program.

Within the Food-At-Home Category

The value of food produced in nonfarm home gardens as well as game is excluded. This was estimated to have a retail value of $7 billion, about 4 percent of at-home food expenditures in 1977.

Within the system of national income accounting, the value of fertilizer, seeds, and fishing equipment is included under PCE for goods. But the value of the final product, which would be an imputed value, is excluded for the same reason that the services one provides oneself with a do-it-yourself kit are excluded. That is, vast imputations of services not purchased in the marketplace would inflate the Nation's output.

Expenditures for Food as a Percent of Disposable Personal Income, 1929-79



*Projection. Source: Department of Commerce.

How the Series Is Derived

The PCE for food is not a yearly summary of food expenditures in the United States. Instead it is derived by multiplying the "benchmark" or quinquinnial (every 5-year) estimate by the "mover."

The "mover" is simply the change in the Bureau of the Census' monthly sales of eating and drinking.[1] It is assumed that the product mix of retail food sales between food and nonfood sales has not changed since 1972. Census data indicate that this mix did not change between 1958, 1967, and 1972.

The "benchmark" data, taken every 5 years, are from the Department of Commerce input-output tables. The data are from the Census of Manufactures, Transportation and Business. Personal consumption expenditures for food are derived by adding transportation costs and wholesale and retail trade markups to manufacturers' prices. After correcting for inventory changes and exports and imports, the PCE is broken down by food eaten off premise (at home), on premise, produced and consumed on commercial farms, and food furnished military and civilian employees.

The current PCE as of this date is still determined by applying the "mover" to the 1967 "benchmark" year. The 1972 input-output tables are in published form, but the data have not yet been incorporated in the PCE series. The published 1972 PCE figure for food, which was extrapolated from the 1967 benchmark figure, was $4.5 billion lower than the actual figure obtained in the 1972 benchmark survey. When the two sets of data are reconciled, those based on the actual 1972 benchmark will be revised going back to 1967. ■

[1] In the at-home food category, food produced on farms is supplied by USDA; food furnished the military is supplied by the Defense Department.

Total Food Expenditures: An Update on the Revised Series

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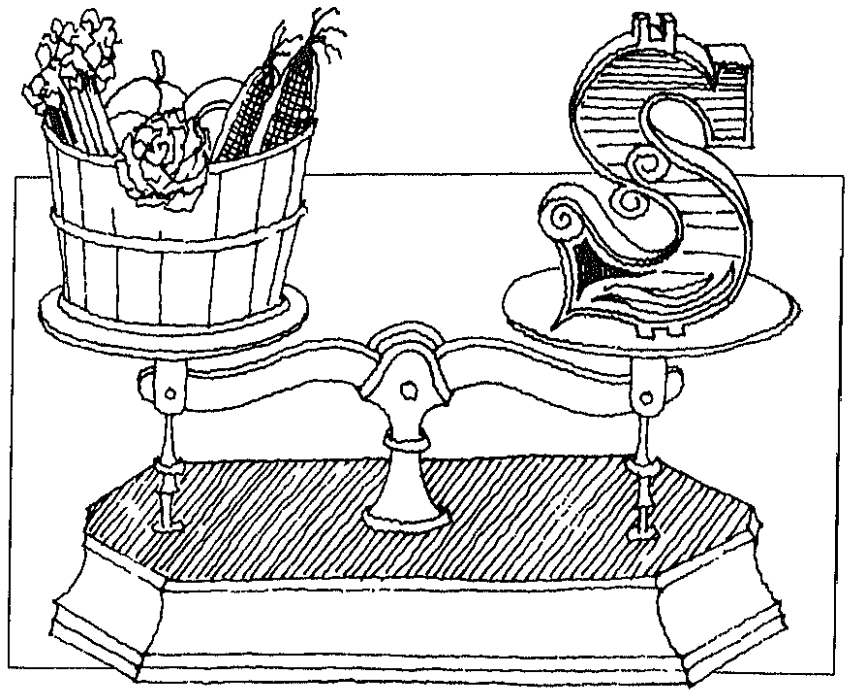


A new measure of U S. food expenditures, called the total expenditures (TE) series, was developed to reconcile the conceptual differences between two other widely used measures of food expenditures.[1]

The TE accounts bridge the conceptual differences between the personal consumption expenditures (PCE) estimated by the U.S. Department of Commerce, Bureau of Economic Analysis, and the marketing bill series published by the Economics, Statistics, and Cooperatives Service (ESCS), USDA.

Purpose of the New Series

Since PCE measures only expenditures by individuals, it excludes business and institutional purchases. In contrast, the marketing bill series includes only the value of U.S. farm produced food, thereby excluding purchases of imported foods, fish, and nonalcoholic beverages. Thus, the PCE and marketing bill accounts are subsets of total food expenditures. The TE series is a broader measure which includes imported foods, fish, and nonalcoholic beverage as well as food purchased by institutions and business.

Derivation of the TE Series

The TE series includes expenditures for food for off-premise consumption, meals and snacks, packaged alcoholic beverages, and alcoholic drinks. The totals for these are composed almost entirely of actual sales data. Conversely, the meals and snacks expenditure total also included may be subject to measurement error since about 30 percent of the total is either estimated or taken from sources other than sales receipts. The data represent expenditures at the last point of sale; that is, the "restaurants" category represents the purchase price of the meal, while food sold to consumers or institutions is valued at its cost to them

Applications of the TE Series

One objective of developing a consistent expenditure measure like the TE series is to describe or explain patterns in consumer behavior. For example, by examining the data over the 1954-78 time period, it is possible to describe changes in consumer expenditure patterns. By deflating these expenditure values with the appropriate price index, it is then possible to measure changes in real total food expenditures over time. The same process can be applied to the components of the expenditure totals. Such an analysis reveals that consumers have made substantial reductions in their expenditures on food delivered to their homes (such as milk or bread) while increasing their purchases of meals and snacks. Other changes or patterns in consumer behavior can be isolated with similar analyses of other expenditure subtotals.

Empirically, the TE series provides a comprehensive, consistent measure of expenditures from which income, price, or expenditure elasticities (measures of quantity response) may be calculated. Since statistical measures like these are of some importance in explaining or forecasting behavior, the total expenditures series can be used in calculating elasticities for a large number of food sales outlets.

In summary, the TE series of U.S. food expenditures overcomes differences among other published expenditure measures. These data are derived largely from actual sales receipts published in secondary sources with a small portion of the total estimated by other means. The consistent and comprehensive nature of the TE series makes it possible to describe and explain consumer behavior toward a variety of food sales outlets. ■

[1] Decribed in the April 1978 *National Food Review*, NFR-2. For the final revision of the TE estimates with a detailed report of the methods used to derive the expenditure measures accompanied by a complete listing of series values see *U.S. Food Expenditures, 1954-1978, New Measures at Point of Sale and by Type of Purchaser*, USDA, ESCS, AER No. 431, August 1979.

Market Basket Changes

Henry Badger

Widening farm-to-retail price spreads have contributed significantly to rising food prices in recent months. The spread between what consumers pay for food in grocery stores and what farmers receive for these foods increased at an annual rate of almost 14 percent during the first 9 months of 1979. This increase was substantially more than increases in wages for employees of food manufacturing and distributing firms or increases in the cost of goods and services purchased by these firms.

When consumers buy food, they are not only paying farmers for producing raw agricultural commodities, they also are paying for all the services rendered by firms involved in getting food from the farm to the grocery store. Food services may include assembly, processing, transporting, storing, wholesaling, and retailing. USDA monitors changes in the costs of these services with a price-spread series for a market basket of domestically produced foods. This series relates retail prices with prices for equivalent quantities of foods at the farm level. The farm-to-retail spread is the difference between retail cost and farm value. Aggregate data are available monthly for the market basket and 10 major food categories.

Atypical Increase

Contributions to the increase in retail food prices in 1979 came from both the farm and marketing sectors. This can be illustrated by allocating changes in the retail cost of a market basket according to source. Consider a market basket valued at $100 in December 1978. Through April of 1979, a 10-percent increase in the farm sector accounted for from 55 to 75 percent of the 8-percent rise in retail food prices. However, the farm-to-retail spread increased about 5 percent at the same time. Typically, spreads decline when farm prices rise rapidly.

Clearly, since April, widening spreads for processing and distributing contributed most to rising food prices. Retail food prices rose another 2 percent through July despite the 8-percent drop in the farm value which began in March and continued through August. By October, the marketing sector accounted for 93 percent of the rise at retail since December of 1978, with increases in farm value accounting for only 17 percent.

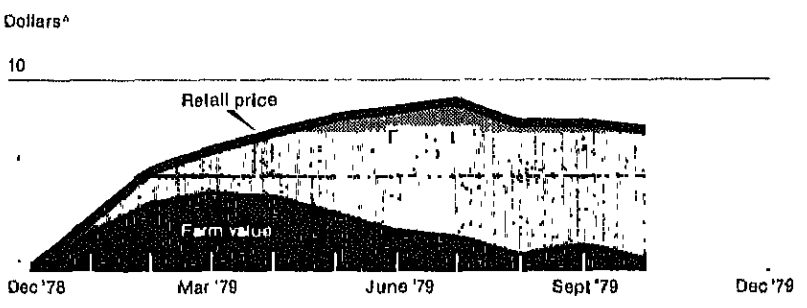
The farm-to-retail spread for the market basket as a whole, which declined both in August and September for the first time in 1979, rebounded 1.6 percent in October—12.2 percent above the year-earlier level. Farm-to-retail price spreads for red meats were up 25 percent, while increases for poultry, dairy, and fats and oils ranged from 11 to 13 percent. Spreads for other products, such as cereal and bakery products, eggs, and fruits and vegetables increased less than the average.

For 1979, farm-to-retail spreads were expected to average about 12 percent wider than in 1978. Prospects for increases in 1980 range from 9 to 12 percent. An increase of 10 percent in farm-to-retail spreads implies an increase of 6 percent in retail prices for domestically produced foods even if the farm value does not change. ■

Changes in Farm-retail Price Spreads

Items	October 1978 to October 1979
	Percent
Market basket	12.7
Meats	24.8
Dairy	11.4
Poultry	13.0
Eggs	7.0
Cereal and bakery	8.7
Fresh fruits	3.9
Fresh vegetables	7.2
Processed fruits and vegetables	9.1
Fats and oils	12.3

Contributions to Changes in Retail Prices for Domestically Produced Farm Foods, 1979



^ Changes since December 1978 for $100 spent at retail for a market basket of foods

Mass Media Food Advertising

Anthony E. Gallo, John M. Connor, and William T. Boehm
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The food marketing system[1] is the largest user of national media advertising among all industries. Food manufacturers, retailers, and service companies spent $2.5 billion in 1978, more than twice the amount spent for automobile and gasoline advertising, the second largest user. In addition, another $3 billion was spent for nonfood items (health and beauty aids, alcoholic beverages, smoking materials, and pet foods) largely sold in grocery stores.

Ninety percent of the money spent for mass media advertising is for television. Other major types include newspapers, general interest magazines, newspaper supplements, network and spot radio, and outdoor billboards.[2]

Important Role

Media advertising is more important to marketing food than it is to marketing nonfood items. Although food accounts for 16.2 percent of disposable personal income (DPI), 21.5 percent of all media advertising expenditures is for food. Food for home use makes up 12 percent of DPI and 18 percent of media advertising. By contrast, meals eaten out account for about 4 percent of DPI, but only 3.5 percent of media advertising. Food-at-home expenditures as a portion of DPI have declined since the late 1960's, but the portion of advertising devoted to food products has stayed about the same.

Food manufacturers accounted for 80 percent of media advertising in the food marketing system in 1978; the retailers' portion was 5 percent. Restaurant advertising—mostly fast food chains—took the remaining portion.

"Others" vs. Newspapers

Media advertising expenditures in the food marketing system in 1978 were about 2.5 times greater than local newspaper food advertising (about $900 million).[3] Although the food marketing system leads national media advertisers, food ranks fifth in local newspaper advertising. Food manufacturers, for example, spend 12 times more on national advertising then they do on local newspaper ads.

By contrast, retail grocers spent more than $5 in local newspaper advertising for every $1 spent on other media advertising. However, part of the food retailers' newspaper advertising costs are borne indirectly by food manufacturers in the form of an allowance to retailers for advertising their food products. Eating and drinking places spent about $3 in media advertising for every $1 spent on local newspapers.

Advertising Budget Allocations

Does the allocation of the advertising budget for the food marketing system differ from the nonfood system? The food industry spends approximately 9 out of every 10 advertising dollars on television. Nonfood industries spent about $7 out of every $10 on television. The low portion of the food industries' advertising budget spent on magazines and newspaper supplements—about 9 percent compared with about 24.5 percent for the nonfood system—is the

[1] The items considered in this article are consistent with the food items in the food component of the Consumer Price Index. Advertising expenditures for alcoholic and tobacco products are excluded.

[2] In addition to these six "measured" media, substantial amounts of advertising are unmeasured, such as in trade magazines, catalogs and brochures, and point-of-purchase displays.

[3] For a discussion of food advertising in newspapers, see *National Food Review*, Fall 1979, NFR-8.

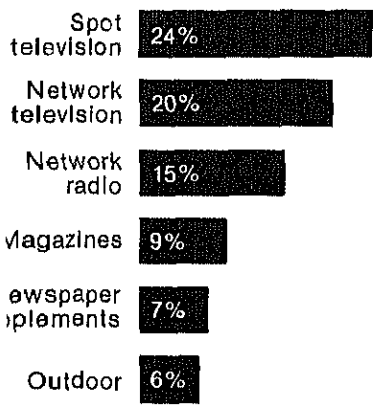
rimary reason for the difference. Most xpenditures for nonfood advertising in ewspaper supplements, magazines, and tdoor billboards are by cigarette anufacturers who are prohibited by w from advertising their products on dio and television.

elevision

Expenditures on television advertising food manufacturers—$1.7 billion in 78—accounted for about 22 percent the television industry's advertising venues. Of the two types of television vertising (spot and network), spot accounts for about 52 percent of the food lustry's total expenditure while netk advertising is about 48 percent, a ersal of the ratio typical of nonfood lustries.

Food manufacturers account for out $1 out of every $4 spent on spot evision. Such advertising is localized l well suited when a food company is

rcent of Media Advertising ed by Food Manufacturers, 781



ludes alcohol and pet foods

trying to increase its share of a geographic market or is test marketing a new product. Food manufacturing is also the industry leader in network television advertising, which at $825 million in 1978, accounted for $1 out of every $5 spent for network TV advertising.

Radio and Magazines

Radio accounts for 6 percent of the food system advertising budget. In 1978, about 90 percent of the $100 million spent on radio advertising went to spot radio.

Magazine advertising of food accounted for $186 million, about 10 percent of total magazine advertising in 1978. Advertising by the food system in Sunday supplements and outdoor billboards, each about $15 million, was insignificant compared with the total bill.

Advertising by Types of Foods

Advertising plays widely varying roles for different food products, but several patterns clearly emerge from the data:

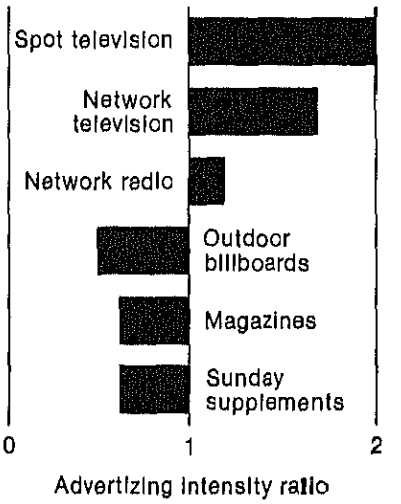
- Highly processed foods account for a large part of total media advertising. About $260 million was spent on soft drinks alone, accounting for about 13.5 percent of media advertising for the food system in 1978.
- Perishables or relatively unprocessed foods take a very small portion of advertising expenditures. The lowest advertising rate is for unprocessed meats, poultry, fresh eggs, dairy products, and fruits and vegetables. Combined advertising in the six media for these products in 1978 was about $140 million, or half what was spent on soft drinks. However, these perishables account for an estimated $200 million or 40 percent of newspaper advertising by local retailers.

Nevertheless, perishables, which account for about half of the consumer's food budget, comprised only 8 percent of the six-media advertising expenditures. By contrast, the six food-product groups with the most advertising accounted for one-fifth of the consumer's food budget and well over half of the food system's media budget.

Advertising Intensity

A measure of the role advertising plays in the marketing of specific food products is the advertising intensity ratio (AIR). This measure compares the portion of media advertising to its importance in the Consumer Price Index for food. A ratio of 1 indicates that the proportion of advertising expenditures for the product is equal to the expenditure proportion of the item in the average

Advertising Intensity Ratios* for Food Products by Type of Media, 1978



*The relative share of total advertizing expenditures in a particular media divided by food at home expenditures as a portion of disposable personal income.

The Seven Media Advertising Budget[1]

	Television			Network radio	Spot radio	Magazines	Newspaper supplements	Outdoor	Total[1]
	Network	Spot	Total						
	Million dollars								
1967	307	419	726	15	70	116	11	16	954
1970	331	413	744	7	69	99	9	14	942
1972	368	405	773	7	62	114	11	14	981
1974	429	503	932	8	62	91	14	13	1,120
1976	571	761	1,332	13	80	121	15	11	1,572
1978	828	892	1,720	13	88	186	16	14	2,037

[1]Excludes food away from home, pet foods and alcoholic beverages
[2]Excludes newspaper advertising

Source: Leading National Advertisers

Six-Media Advertising Intensity Ratios, 1978

Food product categories	Advertising expenditures	Percent of total six media advertising	Percent weighted CPI for food	Advertising intensity ratio
	Mil. dol.			
Breakfast cereals	188	8.8	0.9	9.3
Flour mix products	57	2.7	0.6	4.6
Ice cream, candy, desserts	277	13.0	3.5	3.7
Oils and salad dressings	152	7.2	2.0	3.6
Soups, baby and prepared foods	176	8.3	2.4	3.5
Soft drinks	284	13.3	5.9	2.3
Seasonings and spices	63	3.0	1.5	2.0
Cookies, crackers, chips and other snacks	92	4.3	2.3	1.9
Coffee	136	6.4	3.9	1.7
Sugar, syrup, jellies	17	0.8	0.7	1.2
Bread and rolls	72	3.4	3.2	1.1
Rice and pasta	17	0.7	0.7	1.0
Canned and processed meats, poultry, fish	93	4.4	6.1	.7
Restaurants	363	17.1	30.4	.6
Milk, butter, cheese	76	3.5	7.9	.4
Fruits and vegetables	66	3.1	9.8	.3
Unprocessed meat, poultry, fish and eggs	1	.1	18.1	0.0
Total	2,127	100.0	100.0	1.0

ource: Leading National Advertisers

family food budget. If the ratio is greater than 1, media advertising's relative strength would be greater, with the converse true if the ratio is less than 1.

Not only was the AIR drastically different among foods, the allocation among the six media also differed markedly. Breakfast cereals had an AIR of almost 9.5, the highest for any food. While cereals accounted for less than 1 percent of the CPI for food, they account for about 9 percent of the advertising expenditures for the six media.

Restaurant Advertising

Eating and drinking places account for a much smaller portion of food industry advertising than they do of the retail food bill—the advertising intensity ratio is 0.6, significantly less than 1. Although restaurants comprise about 17 percent of the six-media advertising expenditures, they account for 31 percent of the CPI for food.

However, the $363 million spent on non-newspaper advertising by away-from-home eating places (75 percent) was largely spent by fast food chains. The AIR for fast food chain restaurants is about 3.3.

Restaurant advertising is even more heavily skewed towards television than are food products. About 97 percent of media spending by restaurants in 1978 was spent on television advertising. Spot television accounted for about 65 percent and network television about 32 percent.

The Consumer

Roughly 94 cents out of every $100 of the food bill goes towards financing media advertising (excluding newspapers). Thus, for an annual family food bill of $3,000, about $28 is allocated indirectly to the media. Of this amount, about $24 goes to television and $2.50 to magazines. The remainder finances radio, newspaper supplements, and billboard advertising.

What does the consumer receive in return? Typically, there is little price information in media advertising, except in newspapers. Most product information is image-creating rather than informative, particularly on television. Thus, its overall information value may be marginal.

Advertising and media entertainment, however, are joint products. In addition to the pleasure (or pain) supplied by advertisements themselves, advertising revenues finance commercial television and subsidize some magazines. Thus, the consumer receives a tangible item in return. At present, advertising revenues approximate $50 per person in the U.S. ■

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1. Connor, John M. *Competition and the Role of the Largest Firms in the U.S. Food Processing Industries.* Working Paper No. 29. Madison, Wis., NC Project 117.

2. Gallo, Anthony E., and William T. Boehm. "Newspaper Advertising in Food Marketing," *National Food Review,* NFR-8, USDA, Fall 1979.

Advertising Expenditures for 5 Leaders in Food Advertising, 1978

Product	Television[1]	Magazines	Newspaper supplements	Network radio	Outdoor	Total
			Percent			
Soft drinks	95.1	2.2	0.5	*	1.9	100
Breakfast cereals	93.8	5.3	0.6	*	*	100
Candy and chewing gum	93.7	2.9	*	3.0	*	100
Coffee, tea, cocoa	91.0	6.7	1.7	*	*	100
Combination copy & general promotion	92.1	5.2	1.7	*	1.0	100
All other food at home	83.5	14.4	0.7	0.6	0.8	100
All food at home	88.2	9.5	0.8	0.7	0.7	100
Food away from home	96.7	1.2	0	0	2.0	100
Nonfood	69.0	24.8	2.5	0.8	2.8	100

[1]Both network and spot

* = less than 0.5%

Source: Leading National Advertisers

Foodstores' Information Programs

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If U.S. dietary recommendations are to modify food-buying patterns, nutrition information must be readily available in an easily understood format at the point of purchase. However, food shoppers are often victims of "information overload" for food-purchasing decisions, becoming confused and frustrated by the massive amount of technical information that can accompany a product.

As a result, supermarkets are increasingly expected to help their customers make informed choices in terms of value and nutrition. Almost two out of three shoppers believe it is the supermarket's responsibility to provide information on how to save money and feed the family more nutritiously.[1] In response, many food chains as well as independent retailers, have been sponsoring nutrition information programs.

Types of Programs

Retailer-sponsored programs can be either general nutrition information programs or specialty diet programs. General information programs usually offer information with pamphlets containing recipes and food preparation tips, in-store signs and posters, newsletters, and newspaper and/or radio ads. These programs stress the basic food groups and provide suggestions for long-term diet considerations. Some retailers provide home economists and consumer affairs specialists in the store to answer questions and provide assistance.

Specialty diet programs have emerged more recently for consumers who either have a special health problem that must be regulated through diet or are interested in avoiding specific ingredients as a preventive measure. These specialty programs attempt to meet the needs of an increasing number of households in which at least one member requires a special diet. Of 1,400 households recently surveyed, about half of the household members had changed their diets because of health concerns, and in three out of five households there was at least one person on a special diet.

Study Participants

A list of retailers with existing nutrition information programs was developed from current literature. Each of the 25 largest retail food chains was telephoned to determine their involvement with nutrition information programs, the type of programs, and how the program was developed. In addition, 11 smaller food retailers known to have existing nutrition information programs were contacted. Several leading retailers offered nutrition films, or had nutrition study groups which spoke at schools or clubs, but these activities were not included in the study because they were not ongoing programs at point of purchase.

Of the largest chains, eight had an ongoing point-of-purchase nutrition information program. Sixteen retailers had no specific current program, although five said they were developing such programs. One chain did not disclose any information. Of the smaller retailers contacted, five sponsored specialty diet programs while six have implemented general nutrition information programs.

Depending on the size and scope of the project, the internal planning and coordination by management can take anywhere from a few months to several years. There appears to be no set format for creating nutrition programs, but there are several ways to determine which type of program would be most beneficial for the company's needs.

Some retailers have used feedback from a consumer board or panel they sponsor in developing nutrition information programs.

Minnesota

Byerly's, an independent retailer located in Minnesota, sponsors a nutrition information program called "Special Foods for Special People," to assist shoppers with special diet needs.

Byerly's provides a home economist to help consumers with their special diet concerns. For those on sodium-restricted, fat-modified, and calorie-controlled diets, food guides are used along with color coordinated shelf tags (e.g., a pink guide for calorie-controlled diets would have a corresponding pink shelf tag under diet salad dressing). Recipes and special shopping lists are provided for persons on diets under a doctor's supervision, or those persons interested in health maintenance. "Special Foods for Special People" is designed to provide versatile recipes for the dieter as well as the whole family.

Washington, D.C.

Giant Foods, a Washington, D.C. based chain, developed a pilot nutrition education program in conjunction with the National Heart, Lung, and Blood Institute entitled "Food for Health." The program, which was operated for a 1-year test period, provided consumers with accurate nutrition information at point of purchase relating to heart health. At the end of the test period, the potential impact of the program would be determined through purchasing changes documented by the electronic scanner system. To isolate those changes in food purchasing patterns due to in-store nutrition information, 17 Balti-

[1] *Supermarket Trends-1979 Update*, prepared by Yankelovich, Skelly, and White for the Food Marketing Institute.

more stores not participating in the program were used as a control group.

Giant tried to convey heart-health related messages to its customers with the use of shelf signs. For example, a shelf sign listed the percentage of fat in products such as cheese or milk, and then simply stated "You Decide." Other in-store signs, displays, posters, and newspaper and radio ads provided dietary messages and suggestions. In addition, a bi-weekly pamphelt, "Eaters' Almanac" covered topics concerning diet and its relationship to cardiovascular diseases; sodium as contributing to high blood pressure; and general nutrition information on food selection and preparation and recipes that were economical, healthful, and seasonal.

Boston

Stop and Shop, a Boston chain, developed a general nutrition information program called "Great Shape," using advertising and in-store signs.

The company sponsored their Consumer Dialogue in 1977, the same year a symposium called "Nutrition and the Health of America," was held and the Senate Dietary Goals were published. The idea for a nutrition program developed from these events. The company then created a special task force which, along with their advisory panel, studied current trends in buying behavior, nutrition awareness, and the changing role of food. The company's Industry Advisory Board and Nutrition Advisory Committee comprised of educators, health experts, and nutritionists, offered guidance and suggestions to direct consumers toward better nutrition habits.

Easy to understand signs are displayed over each of the basic four-food groups and remind consumers of nutrition concepts. Each week different recipes that utilize special sale items are featured in their food ads. In addition to recipes, there are economical food preparation and storage ideas, along with suggestions on snacks, ethnic foods, and current nutrition topics.

Most Are Satisfied

Quantitative results of the Giant program will be available in 1980. Some retailers have had negative reactions to their nutrition information programs. Of the leading 25 retailers contacted, 3 said they had either discountinued or were not planning to develop programs due to cost and lack of consumer response. Most retailers contacted said they were satisfied with results. Success can also be inferred from the increasing numer of retailers offering such programs. ■

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Grocery Stores and Eating Places: Mountain States

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Sales of grocery store and eating places in the Mountain States increased after adjusting for inflation between 1972 and 1977. These States include Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming. In addition, eating place sales grew at a faster rate than grocery store sales between 1972 and 1977.

Grocery stores accounted for 20.2 percent of total retail sales in the Mountain States and had more sales than any other retail business in 1977.

Real sales in Mountain area grocery stores grew at a compound annual rate of 3.5 percent between 1972 and 1977. The increase ranged from 1.7 percent in Montana to 6.2 percent in Wyoming. Wyoming had the largest percent increase in personal income and the second largest in population—factors favoring real growth in grocery sales.

Montana had the smallest percent increase in population and personal income between 1972 and 1977.

Real sales per store in the Mountain States averaged 22.6 percent higher between 1972 and 1977. Stores in Wyoming had the largest increase in average sales—64 percent. Per store sales in Nevada decreased slightly. Much of the 0.4-percent decrease in average store sales in Nevada may be attributed to a 19-percent increase in the number of new grocery stores opened between 1972 and 1977. Wyoming had the largest gain in sales per store and the largest percent decrease in number of stores.

Eating place sales in the Mountain States increased at a compound annual rate of 7.3 percent between 1972 and 1977, after adjusting for inflation. The increase was fairly consistent among all of the area's States, not varying by more than 1.5 percent from the average.

Although eating places had marked increases in total sales between 1972 and 1977, the increase in total sales was not large enough to compensate for the 17.3 percent gain in number of eating places. The result was a real, but smaller, increase in per outlet sales. This trend is consistent with that found for eating places in the New England and Pacific States. ■

Advertising Expenditures for Restaurants and Other Eating Places, 1978

	Million dollars	Percent of total
Magazines	4.4	1.2
Newspaper supplement	.2	*
Network television	116.9	31.8
Spot television	238.0	64.9
Network radio	3	*
Outdoor	7.2	2.0
Total	366.9	100.0

Source: Leading National Advertisers

Percent Change in Sales and Number of Grocery Stores and Eating Places: Mountain Area, 1972-77

Area/State	Constant dollar sales, grocery stores: Compound annual rate	Number of grocery stores	Average per establishment: 1972-77	Average per establishment: Compound annual rate	Constant dollar sales, eating places: Compound annual rate	Number of eating places	Average per establishment: 1972-77	Average per establishment: Compound annual rate
Mountain	3.5	-3.0	22.6	4.2	7.3	17.3	20.9	3.9
Arizona	4.1	0.5	21.8	4.0	7.4	25.0	14.1	2.7
Colorado	3.0	0.1	15.7	3.0	7.2	23.0	14.8	2.8
Idaho	4.6	-4.1	30.6	5.5	8.1	5.3	40.3	7.0
Montana	1.7	-10.2	21.3	3.9	5.7	7.3	23.2	4.3
Nevada	3.5	19.2	-0.4	-0.1	8.5	14.6	31.2	5.6
New Mexico	3.4	-5.6	25.5	4.6	7.9	9.5	33.5	6.0
Utah	3.3	-9.2	29.5	5.3	5.9	22.2	9.2	1.2
Wyoming	6.2	-17.7	63.9	10.4	7.6	7.9	33.6	6.0

Source: U.S. Bureau of the Census, Census of business for the respective years

Convenience Food Cost Update

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Changing lifestyles have helped to popularize commercially prepared "convenience" foods.

A study was published recently that provides a comparative analysis of the cost, yield, and eating quality of these convenience foods with home-prepared foods.[1] Food-cost data for the study were based on prices collected from July 1974 through June 1975 in four cities: Milwaukee, Philadelphia, San Francisco-Oakland, and New Orleans. These data have been updated using food price indices in the Consumer Price Index for 1974-75 and 1978-79.

The updated food cost data show that of the 166 convenience foods considered, 59 percent cost more per serving than ingredients for their fresh or home-prepared counterparts, 28 percent cost less, and 13 percent cost about the same. Of the 82 frozen, chilled, or ready-to-serve convenience foods with a fresh or home-prepared counterpart, only 13 (16 percent) were less expensive than their counterpart. Most of these were in the food categories of fruits and vegetables.

Three-fifths of the 23 canned fruit and vegetable products cost less than their counterparts made from fresh fruits and vegetables. However, when fresh asparagus, grapefruit, peaches, and strawberries were in season, they cost less than their canned form. Almost all of the frozen multiple-ingredient vegetable convenience foods were more expensive than their home-prepared counterpart. Most of the frozen single-ingredient vegetable convenience foods were either less expensive or cost the same as their home-prepared counterpart.

More than 80 percent of the baked goods and desserts made from a complete or incomplete mix cost less than, or the same as, their counterpart prepared from a recipe. Of the beef, pork, poultry, fish, and shellfish convenience foods that cost more than their home-prepared versions, two-thirds cost over 15 cents more per serving. Of the baked goods and dessert convenience foods that were more expensive than their home counterpart, nearly three-fourths cost under 10 cents more. Of the convenience foods that were less expensive than their counterpart, almost half cost fewer than 5 cents less per serving. ■

Cost Per Serving of Ingredients for Home-prepared and Convenience Foods, July 1978 — June 1979 (4-city average)

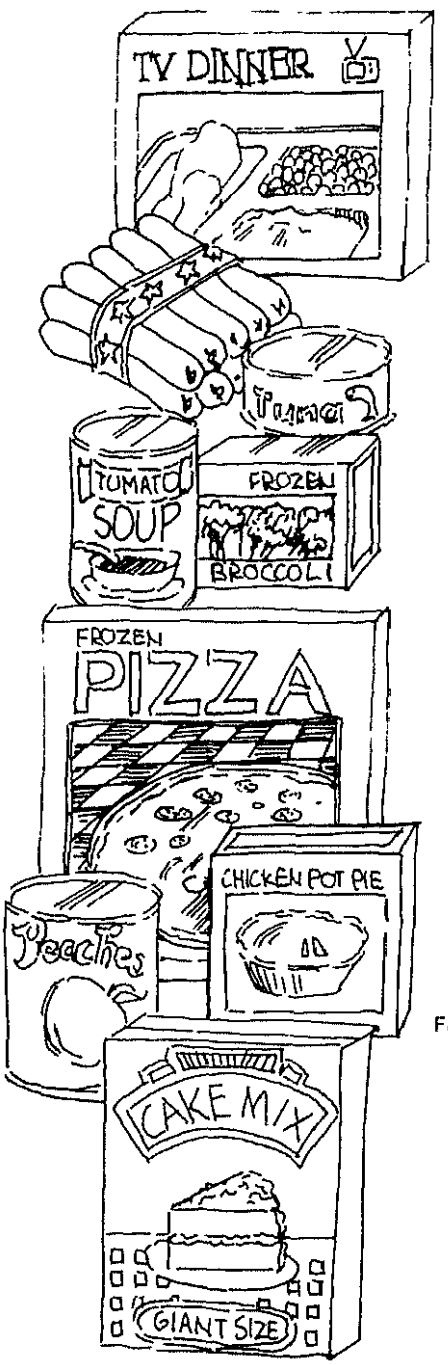
Product	Serving Size	Home-Prepared	Convenience forms	
	Oz		Cents	
Beef				
Chili-macaroni	9.2	40.8*	41.1[1,2]	
Dinner	11.3	75.8	102.7[3]	
Lasagna	9.8	57.7*	112.8[2,3]	
Lasagna, skillet	8.7	42.9*	38.6[1,2]	
Patties, all beef	2.7	31.1	56.2[3]	
Patties, soy-beef	2.7	24.3[4]	22.3[2,5]	
Pie	7.4	28.2*	46.4[3]	
Sloppy Joe sauce	2.8	14.3*	20.8[2,6]	
Stew	8.6	37.0*	42.3[6]	
Stroganoff, skillet	8.0	51.6*	63.8[1,2]	
Meat loaf dinner	9.1	37.1	91.4[3]	
Pork				
Ham, cured	2.0	—	41.6[7]	42.3[6]
Sweet-sour pork	6.0	40.9*	67.8[2,3]	75.2[1,2,*]
Sausage	2.0	40.8[8]	42.9[9]	
		50.8[9]		
Chicken				
A la king	5.7	27.8*	47.4[2,3]	
Braised, whole	2.0	23.6	32.3[6]	
Chow mein	8.6	37.5*	38.4[6]	88.9[3]
Fried, flour-coated	2.0[10]	27.4[11]		
		30.1[12]		
Fried, batter-dipped	2.0[10]	28.9	51.3[3]	
Fried, dinner	9.3	40.8	81.7[3]	
Meat	1.5	18.2	46.3[6]	
Pie	7.8	36.8*	46.4[3]	
Salad, spread	2.5	23.0*	48.4[2,6]	
Turkey				
Dinner	12.5	46.5	92.9[3]	
Tetrazzini	8.1	50.2*	102.4[2,3]	
Finfish				
Pollack fish sticks	2.8	35.3*	35.5[3]	
Haddock dinner	11.2	88.0	129.9[3]	
Tuna casserole	7.8	30.3*	87.8[2,3]	29.4[1,2*]

Continued on next page.

[1] Larry G. Traub and Dianne D. Odland, Convenience Foods and Home-Prepared Foods: Comparative Costs, Yield, and Quality, AER 429, August 1979.

Cost Per Serving of Ingredients — Continued

Product	Serving Size	Home-Prepared	Convenience forms		
	Oz		Cents		
Shellfish					
Crabcakes	2.8	80.3*	53.8[3]		
Crab, deviled	3 1	45.6*	62.6[3]		
Crabmeat	1.8	94.3[13]	98.3[6]		
Shrimp, cooked	2.1	111.6	69 4[6]	79.6[14]	
Shrimp, fried	2 6	64 5*	110.4[14]	73 1[15]	
			69.9[16]	52.2[2,17]	
Shrimp, newburg	4.2	99 7*	146.0[2,3]		
Shrimp, creole	7.5	83.7*	73.9[3]		
Pizza/rice/spaghetti					
Pizza	8.3	37 8*	73.2[18]	47.4[1]	80.6[3]
			161.9[2,19]		
Rice, cooked	3 4	2.8	4.2[20]	4.8[21]	
Fried rice	2.8	17.1*	31.8[2 3]		
Spanish rice	4.5	11.5	15.3[6]	13 4[1]	
Spaghetti/tom. sauce	8 9	26 2	19.2[6]	20.3[1]	
Vegetables					
Asparagus	2 1	34.5	28.9[3]	21.9[6]	
Beets	3.2	18.9	10.1[22]	8.4[23]	
Broccoli spears	3.3	20.0	22.8[3]	31.4[2,24]	
Broccoli au gratin	5.1	35.5*	51.6[2 3]		
Broccoli/hollandaise	4.0	24.0*	36.1[2 3]		
Brussels sprouts	2.7	20.5	16.8[3]		
Butter beans	3.3[25]	4 6	12.6[6]		
Carrots	2.8	10.1	11.0[26]	8.0[27]	
Corn, cut	2 9	16.6	15.8[3]	11.7[6]	
Corn-on-the cob	6 1	19.9	19.0[3]		
Green beans, cut	2 3	12.1	12.3[3]	11.3[2 28]	9.7[6]
Green bean casserole	4 3	27.5	35.7[2 3]		
Green peas	2.8	41.1	15.7[3]	12 5[6]	
Hawaiian-style	3.8	18.6	29.2[2 3]		
Lima beans	2.9	43.9	16.0[3]	16 2[6]	
Pork and beans	6 9	8.0*	17.5[6]		
Potatoes: au gratin	4.5	10.7	35.8[2,3]	13.5[29]	
boiled	4 0	4 1	14.3[6]		
french fried	2.0	11.5	9.8[3]		
hash-browned	3.9	5.8	13.5[29]		
mashed	3 5	4.5	5.5[29]		
patties	3.1	4 9	15.9[3]		
puffs	2.5	9.2	9.8[3]		
scalloped	4.3	6.1	12.1[29]		
stuffed	5.6	14.1	31.1[2 3]		
Spinach	3.4	37.2	16.0[3]	14.7[6]	
Fruits					
Cherries, red sour	3.9[25]	32.5	26.4[6]		
Coconut, shredded	.3	1.9	4.0[30]		
Cranb sauce, strained	2.4	6.3	7.2[6]		
Cranb. sauce, whole	2 4	4.8	7.1[6]		
Grapefruit, sections	3.4[25]	18.9	17.2[6]		
Lemon juice	1.1	12.3	7.6[31]	3.5[32]	
Orange juice	4 4	25.1	9.4[32]	8.9[6]	6.0[33]
Orange drink	4.4		6.0[2 33]	5.2[2,34]	
Peaches	3 7[25]	22.3	21.3[35]	29.4[2 36]	36.5[37]
Pineapple chunks	3.2[25]	17.8	15.3[6]		
Raspberries, red	2.6[25]	35.5	44.0[6]	48.0[3]	
Strawberries, sweetened	3 5[25]	30.4	54.3[6]	46.2[38]	44 7[2 39]
			46.0[40]	28.6[2,41]	



Cost Per Serving of Ingredients — Continued

Product	Serving Size	Home-Prepared	Convenience forms		
	Oz		Cents		
Dairy/eggs					
Amer process cheese	2 0	23 2[42,43]	23 6[44]	23 5[2,45]	
Amer cheese food	2 0	16 7[42,43]	53 3[2,46]		
Cheese fondue	2 7	38 3	47 0[2,18]		
Butter	3	3 2[8,42]	3 3[47]		
Margarine	3	1 4[42,47]	1.7[2,48]	1 7[2,49]	
Milk, nonfat	8 5	11 3[42]	7 5[2,50]		
Whipped cream	1 0	8.1	10.6[46]		
Eggs, scrambled	4.1	14 8	28 6[2,51]		
Baked goods/desserts					
Biscuits	1 4	2 9	3 0[52]	5 2[18]	
Bread stuffing	2.1	9 1	7 0[2,53]		
Brownies	7	5 2	3 7[53]	3 7[52]	8 2[3]
			8.3[54]		
Cake: angel food	1 7	6.3	7.6[52]	15 5[54]	
bundt, fudge	4.1	15 0	14 6[2,53]		
devil's food	1.7	8 1	5 0[53]	17 2[3]	15.0[54]
pound	1.1	3 9	3.9[53]	14 2[3]	9 5[54]
yellow	1 2	4.4	3.9[53]	11 0[54]	
Cookies, sugar	5	1 8	3 5[55]	3 8[54]	
Frosting: chocolate	1.1	6.1	6.3[53]		
white, fluffy	6	1.6	3 3[52]		
Muffins, corn	1 5	3 9	3.9[53]		
Pancakes	5.3	11 7	13.7[53]	6 8[52]	45 0[3]
Pie: apple	4.7	16.4	26 9[3]	31.5[54]	
cherry	4 5	22.4	19 5[52]	28.9[3]	31.4[54]
coconut cream	5.0	14 8	23 2[53]	27 6[3]	35 0[54]
Pudding, chocolate	4.6	13 2	12 9[52,56]	12.1[50,52]	23 9[2,36]
Sherbet, orange	3 2	6.2	13 4[54]		
Waffles	3.3	7 0	7.8[53]	3 6[52]	24.2[3]
Yeast rolls	1.3	2.4	3 2[52]	6.5[3]	8 1[57]
			7 1[58]		
Soup					
Split pea with ham	8.5	—	13 4[59]	33.9[2,60]	50.5[2,3]
			19.4[2,61]		
Baby foods					
Beef liver	3.3	29.2	40 7[6]		
Peaches	2.8	28.0[62]	12 7[6]		
Peas	3.7	29.7[63]	17.6[6]		
Coffee	6.0[64]	5.2[65]	3.2[66]	3.2[2,67]	
Tea	6.0[64]	1 0[68]	2 1[69]	1 6[21]	1.5[2,70]
			15.0[2,71]		

*Most costly ingredient was held in the same proportion to the sum of all ingredients as in the convenience form that had the least quantity of the most costly ingredient

1 Mix 2 "New generation" convenience food (introduced after 1960) 3 Frozen 4 Soy protein added to ground beef at home 5 Soy protein added to ground beef at store 6 Canned 7 Fully cooked 8 Bulk 9 Link 10 Based on lean meat content 11 Whole chicken 12 Cut up chicken 13 Fresh, cooked chilled 14 Prepared from frozen raw, peeled deveined shrimp 15 Prepared from frozen raw, breaded shrimp 16 Frozen breaded prefried 17 Frozen minced, extruded breaded prefried 18 Chilled 19 Frozen appetizer 20 Converted 21 Instant 22 Canned diced plain 23 Canned diced, Harvard 24 Frozen with butter sauce 25 Drained solids 26 Canned sliced 27 Canned diced 28 Frozen bulk bag 29 Dehydrated 30 Plastic bag 31 In plastic container 32 Bottled 33 Frozen concentrate 34 Crystals 35 Canned halves heavy syrup 36 Canned individual serving container 37 Frozen slices 38 Frozen slices in carton 39 Frozen slices in thaw and serve pouch 40 Frozen whole in tub 41 Frozen whole bulk bag 42 Ingredient food (processed food item not commonly prepared in home) 43 Loaf 44 Sliced 45 Singles 46 Aerosol can 47 Quartered 48 Soft tub 49 Liquid, squeeze bottle 50 Dry instant 51 Frozen cholesterol-free substitute 52 Complete mix (requires only milk or water sometimes flavoring) 53, Incomplete mix (requires eggs butter or margarine or other ingredients in addition to milk or water) 54 Ready to-serve 55 Chilled in roll 56, Cooked 57 Brown and serve 58 Heat and-serve 59 Canned condensed 60 Canned, single-strength 61 Dried individual serving packet (green pea) 62 Prepared from fresh peaches 63 Prepared from fresh peas 64 Fluid ounces 65 Regular grind 66 Instant granules 67 Instant freeze-dried 68 Leaves 69 Bags 70 Instant lemon flavored 71 Ready to drink lemon flavored canned

Direct Marketing of Fresh Foods

Hal Linstrom and Pete Henderson
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Farmer-to-consumer direct marketing—roadside stands, farmers' markets, and pick-your-own sites—is on the increase in this country.[1]

Recent interviews with about 300 Alabama food shoppers at five farmers' market outlets revealed the consumers' interest. Responses showed that:

- 47 percent learned about the farmers' markets from radio.
- 37 percent learned about the market from newspapers.
- 65 percent lived within 2 miles of the market.
- 49 percent did not shop at that particular market a year before the survey.
- 58 percent purchased from $5 to $10 worth of fruit and vegetables weekly.
- 4 percent purchased over $25 worth of fruit and vegetables weekly.

Random interviews with growers at the same five Alabama markets demonstrated the farmers' interest in direct marketing. Information they provided on sales showed that:

- 22 percent would not sell at all if the particular market at which they were interviewed did not exist.
- 29 percent were selling direct for the first time.
- 56 percent had been selling direct to the consumer for less than 4 years.
- Of the growers selling at these markets, 89 percent offer tomatoes, 86 percent offer peas; 80 percent offer squash; and 77 percent offer snapbeans.
- Tomatoes ranked first in terms of total dollar sales, followed by snapbeans and peas, respectively.
- 45 percent of the growers live within 10 miles of the market where they normally sell.

The relative importance of direct markets as outlets for specific crops in selected States is illustrated by the percentage of sales for these items made through the outlets. For example, direct markets account for the following proportions of sales for Illinois production: strawberries, 99 percent; blueberries, 90 to 95 percent; raspberries and blackberries, 90 to 95 percent; plums, pears, and cherries, 70 to 75 percent; melons, 40 to 45 percent; pumpkins and squash, 35 to 45 percent; peaches, 25 to 35 percent; tomatoes, 20 to 30 percent; sweet corn, 20 to 25 percent; apples, 15 to 20 percent; and other vegetables, 5 to 10 percent.

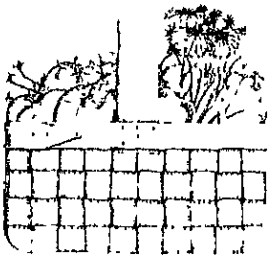
"Vine-ripe" Quality

Customers at 10 farm-community markets in Illinois gave freshness as the top reason for patronizing these markets. They also gave local availability of produce and price savings as important reasons for shopping at a pick-your-own market. They attached least importance to the recreational aspects and to the cost of gasoline.

Direct markets provide the opportunity for many small farms and part-time farmers who do not have access to conventional outlets to supplement their farm incomes. Sales in farm-community markets in Illinois provided approximately 18 percent of the incomes for participating growers in 1978.

In 1978 and 1979, North Carolina obtained three mobile roadside stands to locate at different sites in the State to show farmers the direct marketing method through actual selling.

These mobile markets have effectively introduced the direct marketing concept and new facilities may be built.



Direct Success

Surveys of farmers were conducted in 1978 to determine volume and value of direct marketing in six States (Indiana, Michigan, New Jersey, North Carolina, Ohio and Pennsylvania). Results showed that 60,750 farmers, or about 15 percent, of the 421,600 farmers in these six States sold $259,693,700 worth of products directly to consumers. The percentage of farmers engaged in direct marketing varied from 7 percent of the 98,000 farmers in Ohio to 64 percent of the 7,600 farmers in New Jersey.

Direct sales per farmer averaged $4,275; varying from $1,700 in North Carolina to $10,300 in Pennsylvania. The percentage of total farm sales represented by direct sales to consumers was about 1 percent in Indiana, North Carolina, and Ohio; 3 percent in Pennsylvania; 4 percent in Michigan; and nearly 8 percent in New Jersey. Leading products sold directly to consumers included: floral and nursery items, apples, strawberries, peaches, sweet corn, tomatoes, and green beans.

In absolute terms, Michigan was the leading State in numbers of farmers selling directly—23,600, followed in order by North Carolina, 11,730; Ohio, 6,950; Indiana, 6,900; Pennsylvania, 6,650; and New Jersey, 4,900. Michigan was also the leading State in total value of direct sales, $75,968,100, followed in order by Pennsylvania, $68,558,600; Ohio, $34,671,400; Indiana, $32,842,300; New Jersey, $27,655,800; and North Carolina, $19,997,600.

The leading methods of direct sales to consumers in the six States were roadside stands, pick-your-own, and public farmers' markets. Most direct-marketing farmers were located within 30 miles of population centers of 10,000 or more people. ■

[1] Puerto Rico and the 23 States which were provided funds under Section 5 of the Direct Marketing Act of 1976 (PL 94-463) report their progress in advancing direct marketing annually. The information they provide, combined with USDA's own internal research, forms the basis for annual reports to the U.S. Congress

Nutrient Content of the National Food Supply

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Although Americans are often admonished for eating too much—especially fats and sugars—the National Food Supply Statistics[1] indicate that such advice is being ignored.

The caloric and most nutrient levels of the U.S. diet are the same or higher than last year and 10 years ago.[2] Furthermore, consumption of sugars in 1979 is the highest ever recorded—213 grams of carbohydrate and 850 calories per person per day.

Since Last Year

The energy level of food available for civilian consumption is 3,500 calories per capita per day—2 percent above the caloric level in 1978 and higher than any level since 1909. Additional calories this year over last come from a 3-percent increase in fat and a 1-percent increase in carbohydrate. This year's higher fat level—the highest ever recorded—is due to greater use of pork, shortening, salad and cooking oils, and poultry. The higher carbohydrate level primarily results from greater use of corn sirup.

Only one nutrient, vitamin B_{12}, is below last year's level, mainly the result of the continued decline in beef consumption. Levels are from 1 to 3 percent higher than last year for food energy (calories), carbohydrate, fat, three minerals (calcium, phosphorus, and magnesium) and four vitamins (thiamin, riboflavin, vitamin B_6, and ascorbic acid). The greatest increase (3 percent) for thiamin is due to greater use of pork.

Calcium and ascorbic acid levels are 2 percent above those in 1978. Dairy products are the major source of calcium and increased use of low-fat fluid milk and cheese accounts for most of the gain. Additional use of frozen citrus juice contributes to most of the increase in ascorbic acid.

Smaller increases of 1 percent are indicated for magnesium, phosphorus, riboflavin, and vitamin B_6, while current levels for protein, iron, niacin, and vitamin A value remain the same as in 1978.

Since a Decade Ago

Compared with those a decade ago, current levels in the food supply are 2 to 13 percent higher for food energy and 11 nutrients; and 1 and 3 percent lower for vitamin A value and vitamin B_{12}, respectively. Only calcium remained the same.

All three energy-yielding nutrients increased over the decade—protein by 4 percent; fat by 8 percent; and carbohydrate by 5 percent—resulting in a 6-percent increase in caloric content of the food supply. The higher protein level is mainly from increased use of poultry and peanuts. Fat gains over the decade come from the same foods that provided the gains over 1978, but in different order—salad and cooking oils, shortening, pork, and poultry. Peanuts also added fat during this period. Cur-

Nutrients Available for Consumption Per Capita Per Day[1]

Nutrient (unit)	1969	1979[2]	1979 as a percentage of 1969
Food energy (cal)	3,310	3,500	106
Protein (gm)	100	104	104
Fat (gm)	156	168	108
Carbohydrate (gm)	381	400	105
Calcium (gm)	.95	.95	100
Phosphorus (gm)	1.54	1.57	102
Iron (mg)	17.6	18.5	105
Magnesium (mg)	343	352	102
Vitamin A value (IU)	8,100	8,000	99
Thiamin (mg)	1.92	2.17	113
Riboflavin (mg)	2.31	2.44	105
Niacin (mg)	23.6	26.7	113
Vitamin B_6 (mg)	1.95	2.05	105
Vitamin B_{12} (mcg)	9.7	9.3	97
Ascorbic Acid (mg)	108	120	111

[1]Quantities of nutrients computed by Science and Education Administration, Consumer and Food Economics Institute, on the basis of estimates of per capita food consumption (retail weight), including estimates of produce of home gardens, prepared by the Economics, Statistics, and Cooperatives Service. No deduction made in nutrient estimates for loss or waste of food in the home, use for pet food, or for destruction or loss of nutrients during the preparation of food. Civilian consumption. Data include iron, thiamin, riboflavin, and niacin added to flour and cereal products, other nutrients added primarily as follows: Vitamin A value to margarine, milk of all types, flavored milk extenders, vitamin B_6 to cereals, meal replacements, infant formulas, vitamin B_{12} to cereals, ascorbic acid to fruit juice- flavored beverages and dessert pow milk extenders, and cereals. Nutrient tha first time poultry values from "C foods—poultry products . . raw, pr pared," AH-8 5 (1979).

[2]Preliminary

* The authors are scientists with USDA's Science and Education Administration.

[1] Quantities represent all food available for domestic civilian consumption, such as in homes, restaurants, institutions, or fast-food outlets.

[2] Data should not be interpreted as actual use of food by households or individuals, which is derived periodically from USDA's national food consumption surveys.

bohydrate gains continued to come from greater use of corn sirup and, to a lesser extent, from grain products

Revised Federal standards for enrichment of white flour, effective in 1975, contributed to increases since 1969 for thiamin (13 percent), niacin (13 percent), and riboflavin (5 percent) Greater use of citrus products, including frozen orange juice concentrate and chilled products, and the trend toward fortification of many beverages are primarily responsible for the higher ascorbic acid level (11 percent). Grain products, fruits, poultry, and peanuts are among the foods contributing to the higher levels for other nutrients—phosphorus, iron, magnesium, and vitamin B_6.

The 1-percent lower level for vitamin A value is due chiefly to less use of carrots and edible offal, which includes liver The 3-percent lower level for vitamin B_{12} results from decreased use of meats

Carbohydrate and Sugars

Carbohydrate provided by sugars increased about 35 percent over the past 70 years—from 157 grams per capita per day in 1909-13 to 213 grams in 1979 "Sugars" refers to all sugars—refined cane and beet sugar; sirups and other caloric sweeteners such as honey and molasses; and sugar occurring naturally in foods. However, carbohydrate from starch, primarily from grain products, declined sharply from 335 grams to 187 grams per day.

The total carbohydrate available for civilian consumption declined about 20 percent—from 492 grams per day in 1909-13, to 400 grams in 1979. But the share of carbohydrate coming from

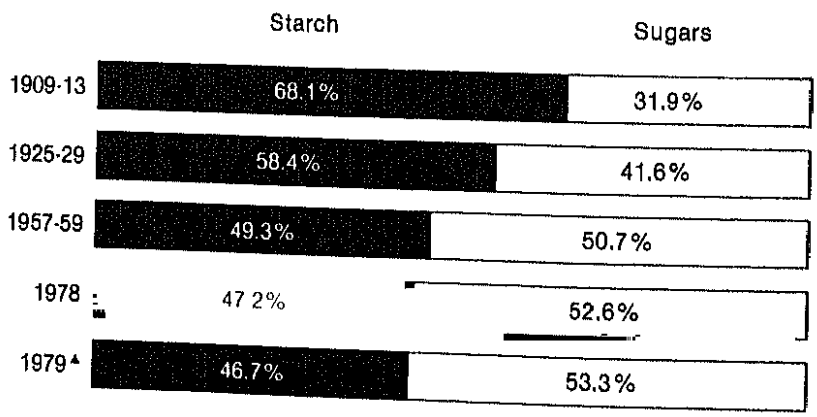
Although sugars now provide more than one-half (53 percent) of the carbohydrate, the increase during the past two decades was small (3 percentage points) in contrast to the increase between 1909-13 and 1925-29 (10 percentage points). By 1925-29 consumption of sugars had risen sharply and that of grain products had begun to decline, a trend which continued until the mid-1970's. Since the mid-1970's, however, use of grain products has increased slightly

The major source of sweetness in diets is refined sugar, which is marketed mostly as granulated, brown, and confectioner's sugar for use by consumers and the food industry. In terms of carbohydrate, refined sugar accounts for one-half of the total sugars available in the food supply in 1979—the lowest proportion ever reported The proportion of sugars provided by refined sugar has declined almost steadily since 1971 as the share from other caloric sweeteners doubled. Currently, other caloric sweeteners provide more than one-fifth of the total sugars.

Consumption of refined sugar was highest in the late 1920's, when it provided 123 grams of carbohydrate per capita per day. Use dropped thereafter and, except for the sugar-scarce years of the 1940's, remained relatively stable until 1972, when it reached 121 grams per day. However, as a result of consumer resistance to high sugar prices, sugar consumption, in terms of carbohydrate, dropped 12 percent between 1973 and 1975 to 105 grams, the lowest level since the 1940's. Consumption partly recovered in 1976 and 1977 but declined again to 107 grams per day in 1979.

The downturn in use of refined sugar since the early 1970's reflects mostly the strong competition of corn sirup, particularly high-fructose corn sirup (HFCS), a relatively new-type sirup

Carbohydrata from Starch and Sugars



which is twice as sweet as regulat corn sirup. Use of corn sirup and other less-used sweeteners account for more than one-fifth of carbohydrate from total sugars in 1979, compared with one-tenth in 1925-29.

Corn sirup has made a substantial contribution to the increased supply of sugars since 1960. During the 1960's, corn sirup consumption rose steadily because of increased use in commercially prepared foods. The development and use of HFCS—particularly in soft drinks—contributed to the further rise in corn sirup consumption since the early 1970's. Currently, HFCS consumption accounts for one-half of the total corn sirup used.

Honey, molasses, sorghum sirup, and maple sirup were more popular as sweeteners early in the century than today. Among these sweeteners, consumption is highest for honey, although never more than 2 pounds per capita per year. Current use is about 1 pound. Maple sirup is the most costly of these sweeteners, and its use also has declined, largely reflecting lack of supplies.

Naturally occurring sugar in food accounts for 27 percent of the carbohydrate provided by total sugars in 1979 compared with 33 percent early in the century. Two food groups—dairy products and fruits—provide almost all of the sugar occurring naturally; and they provide it in almost equal proportions. Dairy products made the largest contribution in 1957-59, years of peak use for these products. Since then, the use of fluid milk has declined, partly because there are fewer children.

Calories from Sugars

Refined sugar and other caloric sweeteners in the 1979 food supply provide 18 percent of the total calories. A goal of 10 percent of the total calories from such

Cerbohydrate from Sugere Per Capita Per Day

Year	Total sugars[1]	Naturally occurring sugar	Other sugars: Refined cane and beet sugar	Other sugars: Other caloric sweeteners[2]
		Grams		
1909-13	157	51	92	13
1925-29	198	56	123	20
1967	193	59	113	21
1969	198	59	117	22
1970	202	59	120	23
1971	201	58	120	23
1972	203	57	121	25
1973	206	58	120	29
1974	200	57	114	29
1975	200	60	105	35
1976	209	60	110	38
1977	212	59	112	41
1978	209	57	108	44
1979[3]	213	58	107	48

[1]Components may not add to total due to rounding
[2]Includes sirups corn sugar (dextrose) honey molas ses sorghum and maple products
[3]Preliminary

Percentage of Calories Provided by Sugars

Year	Total sugars[1]	Naturally occurring sugar	Other sugars: Refined cane and beet sugar	Other sugars: Other caloric sweeteners[2]
		Percent		
1909-13	18.0	5.9	10.6	1.5
1925-29	22.9	6.4	14.2	2.3
1967	24.1	7.4	14.1	2.6
1969	24.2	7.2	14.2	2.7
1970	24.4	7.1	14.6	2.7
1971	24.3	7.0	14.5	2.8
1972	24.4	6.9	14.5	3.0
1973	24.9	7.1	14.5	3.5
1974	24.3	6.9	13.9	3.6
1975	24.6	7.4	12.9	4.3
1976	24.7	7.1	13.0	4.5
1977	24.7	6.9	13.1	4.8
1978	24.3	6.8	12.6	5.1
1979[3]	24.4	6.7	12.2	5.5

[1]Components may not add to total due to rounding
[2]Includes sirups, corn sugar (dextrose), honey, molas- ses, sorghum, and maple products
[3]Preliminary.

sugars was proposed as one of the dietary goals for the United States by the Senate Select Committee on Nutrition and Human Needs in 1977.[1]

Of the sugars, refined sugar supplies the largest share of total calories (12 percent)—double the current share from other caloric sweeteners. Early in the century, refined sugar's share was seven times that of other sweeteners. Sugars occurring naturally in food accounted for 6 or 7 percent of the calories throughout the years.

Use of Refined Sugar

Consumers have much less control over the amount of sugar in their diets now than earlier in the century. The major use of sugar has shifted from direct use by consumers in their households to use by industry in commercial preparation of food and the production of beverages. In 1978, about 70 percent of the refined sugar for civilian consumption was used by industry in commercially prepared foods and beverages.

Four decades ago, per capita use of sugar in the home (59 pounds per year) was almost double the amount then used in commercially prepared food products and beverages (31 pounds). Most baking, canning, pickling, and jelly-making took place in homes prior to World War II, and sugar was purchased for this purpose. But by the late 1940's, use of sugar by industry in beverages and manufactured food products had overtaken use by households. Among the manufactured food products containing significant quantities of sugar are cereals, bakery products and mixes, confectionery products, processed fruits and vegetables, and certain dairy products such as ice cream.

Household use of sugar declined from 59 pounds per capita per year before World War II to 22 pounds in 1978 (the latest year for which data are available). During the same period, use by industry, including the beverage industry, increased from 31 pounds to 66 pounds.

The beverage industry accounted for a little more than one-fourth of refined sugar consumption in 1978, largely in the production of soft drinks. This is about the same as for most years since the early 1970's. Although the use of refined sugar in soft drinks was relatively stable in this decade, the use of corn sirup increased. Corn sirup is now being used extensively by beverage manufacturers as a replacement for sugar. In fact, about 40 percent of all HFCS is now used in soft drinks, according to trade sources.

Soft drink consumption more than doubled between 1960 and 1978. Use of soft drinks in 1978 was equivalent to 384 12-ounce containers per capita per year, or a little more than one per day. Soft drinks in 1978 supplied an estimated 4 percent of the calories in food supply.[4]

While use of refined sugar in manufactured food products continues to far exceed direct use by consumers in households, use declined 15 percent between 1969 and 1978. Largest decreases in use during this period were for processed fruits and vegetables, confectionery products, and cereals and bakery products. These decreases may be attributed to consumer resistance to price increases for products; to the growing use of corn sirup as a sweetener in many products, particularly soft drinks, bakery products, and canned fruits; and possibly to increased concern by consumers about excessive sugar in their diets. ■

[1] U.S. Senate Select Committee on Nutrition and Human Needs. Dec. 1977. *Dietary Goals for the United States*, 2nd ed. Washington, D.C.: Govt. Printing Office.

[4] Assumes that 10 percent of soft drinks are diet or low-calorie types and that caloric sweetened soft drinks provide 13 calories per fluid ounce.

Major Uses of Refined Sugar Per Capita Per Year[1]

Year	Total	Direct by consumer	In food products[2]	In beverages	Other[3]
		Pounds			
1909-13	76.4	52.1	15.8	3.5	5.0
1935-39	97.1	58.8	25.9	5.2	7.2
1947-49	94.8	37.4	37.8	10.6	9.0
1957-59	95.4	33.1	41.4	12.6	8.3
1967	97.8[4]	25.7	46.7	20.8	4.6
1969	100.2[4]	24.9	47.2	23.9	4.2
1972	101.9[4]	24.7	46.6	28.5	4.1
1977	94.7[4]	23.6	41.0	25.7	4.4
1978[5]	91.9[4]	22.3	40.2	25.3	4.1

[1] Data provided by Sweetener Project, Economics, Statistics, and Cooperatives Service, USDA

[2] Includes use in cereal and bakery products; confectionery products; processed fruits and vegetables; dairy products; and miscellaneous food uses such as meat curing, sirup blending, and certain prepared and packaged dessert products

[3] Includes use by eating and drinking places, institutions, and the military

[4] Excludes approximately 1 pound per capita per year for nonfood use, mostly in tobacco and pharmaceuticals.

[5] Preliminary

Contribution of Major Food Groups to Nutrient Supplies[1]

Food group	Food energy	Protein	Fat	Carbohydrate	Calcium	Phosphorus	Iron	Magnesium	Vitamin A value	Thiamin	Riboflavin	Niacin	Vitamin B_6	Vitamin B_{12}	Ascorbic acid
1967								Percent							
Meat (including pork fats cuts), poultry, and fish	20 6	40 5	35 9	0 1	3 7	25 9	29.7	12 6	22 8	28 6	22 4	47 1	39 4	66 4	2 1
Eggs	2 3	5 9	3 4	1	2 6	6 0	6 0	1 4	6 7	2 6	5 8	2	2 6	9 6	0
Dairy products, excluding butter	11.8	22 8	13 3	7 3	76 0	36.7	2.2	22 5	12 3	9 7	42 8	1 7	11 8	21 2	4 8
Fats and oils, including butter	16 8	2	40 2	[2]	4	2	0	4	6 3	0	0	0	.1	0	0
Citrus fruits	8	.4	1	1 8	9	7	6	2 0	1 3	2 5	5	8	1 4	0	25 6
Potatoes and sweetpotatoes	2.8	2 3	1	5 3	1 0	3.5	4 0	7.1	5 8	5 0	1 6	6 5	10 7	0	16 1
Dark green and deep yellow vegetables	2	4	[2]	5	1.4	6	1 6	2 0	20 0	6	1 0	6	1 9	0	6.5
Other vegetables, including tomatoes	2 5	3 3	4	4 6	4 7	4 6	9 2	10 3	15 1	6 7	4.5	5 9	10 6	0	30 7
Dry beans and peas, nuts, soya flour, and grits	3 0	5 0	3 6	2 2	2 6	5 7	6 5	11.0	[2]	5 4	1 6	6 5	4 9	0	[2]
Flour and cereal products	20 1	16.4	1 4	38 5	3 4	12 6	28 2	16 2	4	38 7	17.3	23.6	9 6	9	0
Sugar and other sweeteners	16 1	[2]	0	35 9	1 0	2	5 3	2	0	[2]	1	[2]	.1	0	[2]
Miscellaneous[3]	8	4	1 3	7	1 0	1 9	2 6	8 4	1 2	1	6	5 3	1	0	1 5
1979 Preliminary															
Meat (including pork fat cuts), poultry, and fish	20 6	42 0	35.2	0.1	3 9	27 4	29.0	13.5	22 5	27.1	22 2	45.0	40 0	69 2	2 0
Eggs	1.8	4 9	2 7	1	2 3	5 2	4 9	1 2	5 6	2 0	4 9	1	2 1	8 5	0
Dairy products, excluding butter	10 7	21.7	11 6	8 3	73 8	34.7	2.5	21 2	13 2	8 1	39 1	1 4	11 6	20 7	3.7
Fats and oils, including butter	18 2	.2	42.7	[2]	4	2	0	4	8 2	0	0	0	[2]	0	0
Citrus fruits	9	5	.1	1.9	1.0	.8	8	2.2	1.6	2.6	5	.8	1 3	0	26.3
Other fruits	2.2	6	3	4.7	1 2	1 2	3.5	4 2	6 4	1 8	1 7	1.7	6.9	0	12.7
Potatoes and sweetpotatoes	2 8	2.3	1	5 4	1 0	3 7	4 5	7.2	5 3	4 9	1 4	8 2	10 0	0	14.8
Dark green and deep yellow vegetables	2	4	[2]	.4	1.4	.8	1 5	1 9	18 6	7	1.0	5	1 8	0	8.7
Other vegetables, including tomatoes	2 4	3 3	4	4 6	5.0	5.0	8 9	10.5	15 3	6 1	4 5	5 3	10 4	0	28 3
Dry beans and peas, nuts, soya flour, and grits	3.4	6.0	4.4	2 2	3.1	6 8	8 7	13 2	[2]	5 4	2.0	8 2	5 4	0	—[2]
Flour and cereal products	19 0	17 8	1 3	35 0	3 4	12.5	26 6	16 0	4	41 2	22 1	27 4	10 2	1.6	0
Sugar and other sweeteners	17 1	[2]	0	36 8	2 7	.6	7 1	0.2	0	[2]	[2]	[2]	[2]	0	[2]
Miscellaneous[3]	6	.3	1 1	.5	.8	1 5	2 0	6 3	2 3	1	6	3.3	.1	0	3 4

[1]Percentages for food groups are based on total nutrient data in table entitled "Nutrients Available for Consumption"
[2]Less than 05 percent.
[3]Coffee, chocolate liquor equivalent of cocoa beans, and fortification of products not assigned to a specific food group

Food Consumption in 1979

Patricia A. Moore
8910

Significant changes in the 1979 food consumption pattern were caused not only by economic conditions and weather variations, but also by nutritional values and cyclical changes in beef production. The greatest substitutions occurred among beef, pork, and poultry consumption.

Less Beef Eaten

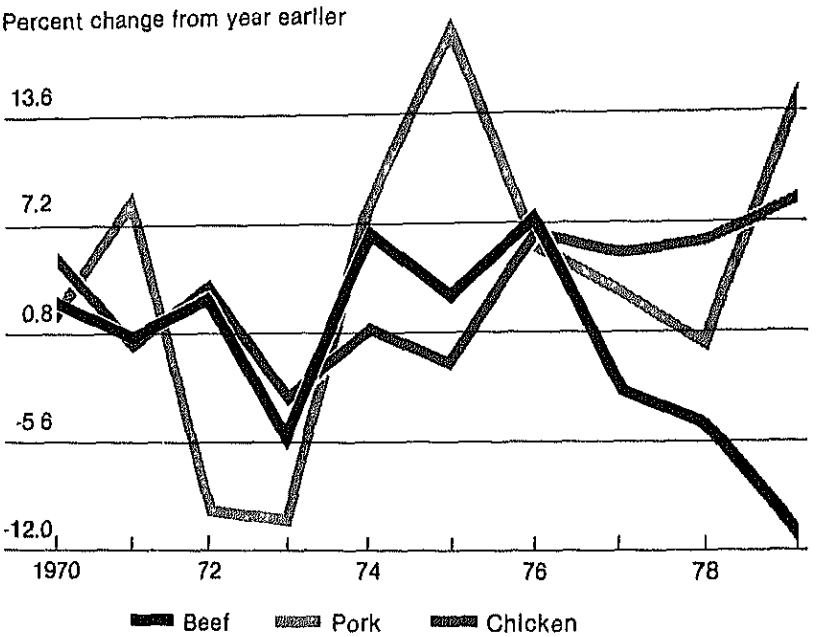
Beef consumption dropped 11.1 percent in 1979 from 89.2 pounds to 79.3 pounds per capita (retail weight) —the largest recorded decline since 1945. This decrease was offset by a 13.9-percent increase in pork consumption from 56.8 pounds to 64.7 pounds per capita (retail weight), the largest increase since 1974.

Poultry consumption increased 8.6 percent from 57.1 pounds to 62 pounds per person, partially offsetting the decline in beef consumption. Production has been the main factor influencing these changing consumption patterns. Basically, 11 percent less beef was available because beef production was sharply curtailed as the industry shifted from liquidation to herd rebuilding. Hogs, which take considerably less time than cattle to produce, increased 15.4 perent; and poultry production, which can be expanded in 3 months, rose 10.5 percent.

The past decade showed a fluctuating pattern of increases and decreases in red meat consumption. The first marked decrease occurred in 1973 when retail prices rose sharply as fewer cattle were marketed due to lower profits for the cattle industry. Consumption of beef increased in 1974 and steadily thereafter until 1977. Beef consumption decreased in the past 3 years while pork and poultry consumption increased.

Fish consumption increased 2 percent in 1979, one of a series of steady increases in recent years.

Change in Per Capita Consumption of Beef, Pork and Chicken

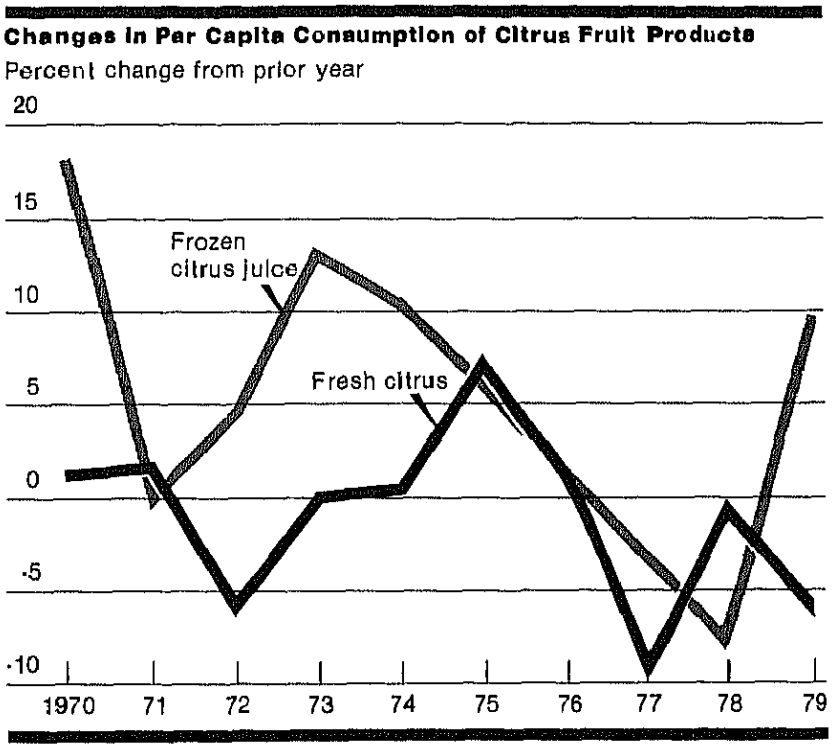


Overall consumption of red meat, poultry, and fish has increased 8 percent since 1969, from 206.2 pounds to 222.7 pounds per capita. Contributing to this increase are a 32.8-percent increase in poultry consumption from 46.7 pounds to 62.0 pounds per capita, and a 22.3-percent increase in fish consumption from 11.2 pounds to 13.7 pounds per capita. Total red meat consumption decreased 4.0 percent in the past 10 years from 153.3 to 147.1 pounds (retail weight) per person. This decrease is attributable to the following declines in consumption which occurred from 1969 to 1979: beef, from 81.9 to 79.3 pounds per capita; pork, from 65.7 to 64.7 pounds per capita; veal, from 2.7 to 1.7 pounds per capita; and lamb and mutton from 3 to 1.4 pounds per capita.

Changes have occurred in the consumption of meat, poultry, and fish for several reasons. Production of these commodities determines the quantities available for consumption. Therefore, changes in production will be reflected in consumption. Prices, which also affect consumption, are determined to a large extent by production. Less beef was available at a higher price in 1979, thus less was consumed. As more pork and poultry were available at a relatively lower price, more was consumed.

Other reasons frequently cited for tradeoffs among meat, poultry, and fish, but which have a more gradual effect, are nutrition information and ease of preparation.

Changes in Per Capita Consumption of Citrus Fruit Products



More Cheese Chosen

Cheese consumption in 1979 reached 17.9 pounds per capita, the highest on record. Consumption has increased 63 percent in the past 10 years from 11 to 17.9 pounds per person. Consumption of the following cheeses increased in 1979: American cheese, 3 percent; Swiss cheese, 7 percent; cream cheese, 11 percent; soft Italian cheese, 6 percent; and miscellaneous varieties by 10 percent. Cheese is being used more frequently as a main-dish substitute and source of protein.

Total per capita consumption of fluid milk and cream declined in 1979 from 285.9 pounds to 284.2 pounds per person, down 0.6 percent. Consumption varied for the components of fluid milk and cream as follows: fluid whole milk down 3.8 percent, from 180.0 to 173.0 pounds; fluid cream down 1.8 percent, from 5.7 to 5.6 pounds; and fluid low-fat milk up 5.4 percent, from 100.2 to 105.6 pounds per person. Consumption changes within this group indicate a change in dietary patterns.

Drinking More Low-fat Milk

Consumption of fluid whole milk decreased steadily over the past decade. Since 1969 it has declined from 241 to 173 pounds per person, down 28 percent. Fluid cream consumption remained steady with an average consumption of 5.7 pounds per capita in the past 10 years. Low-fat milks that include buttermilk and all low-fat fluid items used in flavored drinks steadily increased over the same 10 years, from 53.9 to 105.6 pounds per person, a 96-percent increase.

Ice cream and other frozen dessert consumption declined 3 percent in 1979 from 27.8 to 27 pounds per person. Ice cream consumption remained around 17.5 to 18 pounds per capita in the beginning of the 1970's. In 1975, ice cream consumption peaked at 18.7 pounds and has been declining since.

Butter consumption remained the same in 1979 at 4.5 pounds per person. Since 1969, consumption has declined from 5.4 to 4.5 pounds per person. Consumption has been steady at 4.4 to 4.5 pounds per person in the past 4 years.

Total per capita consumption of fats and oils has increased 2.7 percent in 1979. Increased margarine and shortening consumption have caused this increase.

Fruit and Juice

Per capita fresh fruit consumption declined from 83.9 to 83.2 pounds per person in 1979. Fresh citrus fruit consumption, which declined 6.0 percent from 26.5 to 24.9 pounds per capita, caused the overall decline. Fewer oranges were available for sale on the fresh market, due to the December 1978-January 1979 freeze in California and Texas. Most oranges which were harvested from these States went to processing plants, thus increasing the frozen concentrated citrus juice supplies. More Florida citrus fruits than usual were sold on the fresh market where prices were higher.

Per capita consumption of frozen concentrated orange juice increased 10 percent in 1979, following a 1978 decline, and chilled citrus juice consumption increased 3 percent. Fresh

1968-1978: More Fish, More Poultry, Less Red Meat

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citrus consumption has declined 12.3 percent since 1969, while frozen citrus juice consumption has increased 62 percent during the same time period.

Apple consumption increased from 17 to 17.2 pounds per person while other non-citrus fruit increased 1.7 percent from 40.4 to 41.1 pounds per capita in 1979. Bananas and peaches were among the fruits contributing to the increase. Apple consumption increased in the past decade until it peaked in 1976 and has been stable for the past 3 years. Other non-citrus fruit consumption has been steadily increasing since 1969 from 36.2 to 41.1 pounds per capita.

Canned fruit consumption increased from 19.0 to 19.2 pounds per capita in 1979. This 1-percent increase follows a series of steady declines from 24.2 pounds per capita in 1969 to 19.0 pounds per capita in 1978. Canned fruit juice consumption repeated the record high of 17.4 pounds per capita, which was reached in 1978 and maintained in 1979.

Flour and Cereal

Per capita consumption of wheat flour, including the amounts used by commercial bakeries, decreased 3 percent from 115 to 112 pounds. Rice consumption increased 71 percent from 5.8 pounds per capita, a record low, to 9.9 pounds per capita, a record high. Corn, oats, and barley consumption remained stable at 94.4 pounds, 7.0 pounds, and 1.9 pounds, respectively.

Coffee, Tea, or Cocoa

Per capita coffee consumption increased 9.5 percent in 1979, from 10.5 to 11.5 pounds (green-bean equivalent). Tea consumption remained at 0.74 pounds per person and cocoa consumption declined slightly from 3.4 to 3.2 pounds per person. ■

U.S. food consumption patterns have shifted significantly during the past decade due to increases in overall and relative food prices and supplies, new information on nutrition and food safety, and technological advances in food processing.

One of the most notable changes is the substantial increase in fish and poultry consumption over red meats. Between 1968 and 1978, per capita consumption of red meats increased only 0.3 percent. A 9-percent rise in beef consumption during this period was offset by decreases in the quantity consumed of pork, veal, lamb, and mutton. However, per capita consumption of poultry and fish rose 28.0 and 17.3 percent, respectively.

This same trend held true for poultry products in the preceding decade (1958-1968), when per capita consumption increased approximately 31 percent. In that period, consumption of beef rose 32 percent, pork 10 percent, and total red meats 17 percent, while per capita consumption of fish increased less than 4 percent.

Total domestic consumption grew dramatically for poultry and fish, with poultry consumption increasing 40 percent between 1968 and 1978, and fish consumption more than 25 percent.

The shift from red meats during the past decade occurred simultaneously with price increases. Rising consumer incomes, however, have helped maintain a demand for all red meats. But this increased spending power, coupled with recent reduced beef supplies, has resulted in a 105-percent rise in beef prices since 1968. Similarly, retail pork prices have increased 115 percent from an average of 67 cents per pound in 1968 to $1.44 per pound in 1978. When deflated by the change in the Consumer Price Index, these two price increases become "real" increases of 17.5 percent for beef and 27.5 percent for pork.

Poultry has become a relatively greater bargain. Retail chicken prices rose 67 percent between 1968 and 1978 (20 percent less than the rise in the general food price level), and turkey prices rose 76 percent (more than 11 percent less than general food prices). In 1978, retail prices for chicken and turkey averaged 68 and 82 cents per pound, res-

Percentage Change in Per Capita Consumption of Beef, Pork, Fish, and Poultry 1968-78

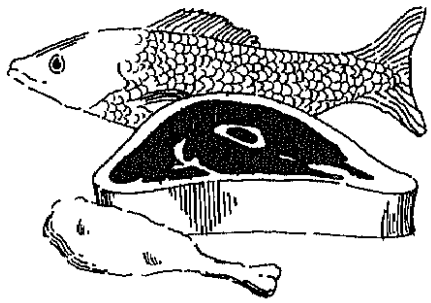
Food Item	1968	1978	Percentage Change (1958-68)	Percentage Change (1968-78)
			Pounds	
Red Meats	148.9	149.3	17.2	0.3
Beef	81.2	88.9	31.8	9.5
Pork	61.4	56.5	9.6	-8.0
Veal	3.0	2.5	-48.3	-16.7
Lamb & Mutton	3.3	1.4	-10.8	-57.6
Poultry (Chicken & Turkey)	44.6	57.1	31.2	28.0
Fish	11.0	12.9	3.8	17.3

pectively At approximately half the cost of beef and pork, poultry products are providing many consumers with a lower-priced alternative to red meat

Medical Evidence

Some consumers may have opted to eat less red meat in response to medical evidence which suggests a correlation between consumption of these foods and the increased risk of cardiovascular disease, obesity, and cancer. The American Heart Association recommends meals of fish and poultry, which contain less saturated fat than red meat, and the use of lean or trimmed meat cuts. In general, red meats contain higher quantities of cholesterol than fish and poultry products. For example, a 3-ounce serving of beef or pork contains 75 to 80 grams of cholesterol, versus 40 to 55 grams for a serving of cod or flounder and 65 to 70 for light meat chicken. High cholesterol levels have been cited as a possible precursor to arteriosclerotic heart disease.

Between 1972 and 1978, the number of establishments primarily selling chicken rose 55.9 percent. The number of seafood outlets increased over 656 percent, and now accounts for an estimated 60 percent of total fish consumption.[1] Improvements in the preparation and marketing of processed seafood products, such as frozen fish fillets, have encouraged the growth of



seafood establishments which now offer a variety of seafoods, including shrimp, clams, and oysters.

Easy Meals

Convenience products such as frozen prepared fish cakes, breaded shrimp, and seafood dinners have facilitated at-home consumption. Ease of preparation has made it possible to include seafood more often in the diet, especially for single-person and dual-career households.

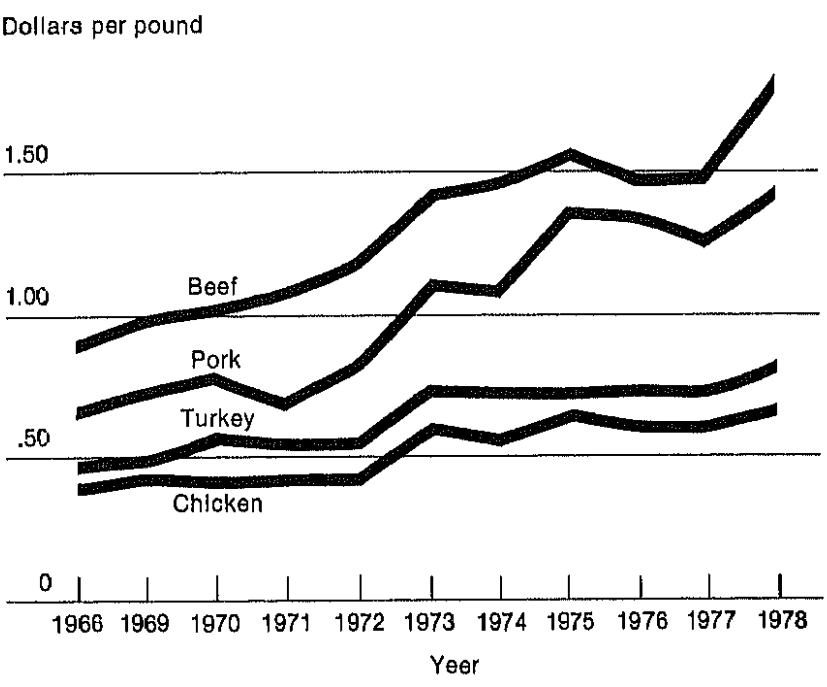
The increased use of processed frozen fish products, both at home and away from home, has accounted for most of the growth in per capita fish consumption. Fresh and frozen fish consumption rose from 5.7 lbs. per person in 1960 to 7.9 lbs. per person in 1978, nearly a 40-percent increase. However, consumption of canned and cured fish has shown little change.

Thus, two types of change may be occurring in consumer demand for meat, poultry, and fish. The first is caused by a shift in relative price relationships and supply among fish, beef, and pork.

The second type of change is the possibility of a shift in demand for poultry and fish due to nutritional concerns or changing tastes and preferences.

During the 1980's, trends which are now being observed may prove to be due to long-term shifts as well as market adjustments to available supplies and prices. ■

Average Retail Prices for Beef, Pork, Chicken, and Turkey



[1] See "U.S. Fish Consumption and Price" by Theresa Sun, *National Food Review*, Winter 1979.

Beef Grading: Meeting New Goals

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Since 1926, the U.S. Department of Agriculture has had a voluntary grading system for beef produced in the United States. Currently, about 60 percent of beef is graded. The grades designate differences in tenderness, juiciness, and flavor, reflecting the amount of fat or "marbling" in the meat.

The top three grades in descending quality are Prime, Choice, and Good. Only 6 percent of graded beef is Prime, while 88 percent is Choice, and 5 percent, Good. Lower grades (Standard, Commercial, Utility) make up the remaining 1 percent of the graded beef. All beef is inspected for safety, that is, freedom from disease or contamination.

The rationale for establishing grades was to make wholesale transactions simple and more efficient. Beef grades were not originally envisioned as an aid to the consumer buying the product. However, with the passage of time, USDA beef grade designations have become associated with eating characteristics of certain types of beef. Some earlier studies have shown, however, that consumers may not be familiar with USDA beef grade designations.

The beef industry has witnessed two events which may be affecting consumer preferences and purchasing patterns. In 1976, several changes were made in the USDA beef grading standards, which in effect moved the top third of the previous Good grade beef into Choice, and the top third of the previous Choice into the Prime category.

Consumer complaints about this change included whether producers' savings in producing the less costly beef would be passed on to consumers. That is, would consumers be paying the same "choice" prices for beef formerly categorized as lower in grade.

Then, in 1977, the Senate Select Subcommittee issued Dietary Goals which specifically recommended that consumers eat less fats, particularly animal fats, to prevent health problems. In 1978, USDA conducted a nationwide survey of over 1,300 homemakers. Specific areas covered in this survey were: consumers' knowledge of beef grades, their perception of changes in the quality of their beef purchases since the conception of the new beef grading standards, and their visual preference for various cuts of beef from different carcass grades.

Knowledge of Beef Grades

USDA grade designations were said to be somewhat or very important by 75 percent of the homemakers in determining where they shop for beef. However, homemakers showed some confusion when asked about specific grade designations. Respondents were given a list of grade designations—some of which were spurious and others which were bonafide—and were asked which grades of beef listed on the card they actually purchased. The beef grade cited most often (42 percent) was Choice, which is also the most predominant grade on the retail market. However, "Grade A" beef, a bogus designation, was purportedly purchased by 35 percent of the shoppers, while "First Cut" and "Grade AA" beef grades (also non-USDA) were each claimed to have been purchased by 4 percent of the respondents. Twenty-one percent of the homemakers admitted they didn't know which grade they actually bought.

Confusion with beef grading appeared greater for those respondents with less education. Nearly 40 percent of the homemakers with only an elementary education did not know what grade of beef they purchased, compared with about 17 percent of those who had gone to college. Indicated purchase of USDA Prime and Choice designated beef was positively related to both educational and income levels.

The discrepancy between ascribed importance of beef grading and confusion

Consumer Satisfaction With Selected Beef Brought for Home Use

Characteristics	Juiciness			Tenderness			Flavor		
	Steaks/Roasts/Ground			Steaks/Roasts/Ground			Steaks/Roasts/Ground		
Satisfaction	Percent								
Always	27	31	35	23	29	36	27	31	35
Almost Always	50	52	45	44	49	45	47	51	41
Sometimes	19	14	15	27	17	14	20	14	18
Seldom	3	1	4	4	2	2	4	2	3
Never	1	–1	1	1	–1	2	1	–1	1

about authorized grades used may result from uncertainty over the Federal role in beef inspection.

Changes in Quality

Consumers in the survey were also asked whether they had detected changes in the beef they purchased since the revised standards were instituted. About one-fifth of the homemakers indicated they had changed where they shop for beef. Among this segment, only 11 percent indicated they changed their shopping patterns because the meat they had purchased was not tender. About 7 percent of this group indicated the beef was not flavorful or did not taste good. Of those shoppers who had switched stores, 18 percent had done so because of some problem with the quality of beef they had purchased.

For the remaining 80 percent of those surveyed, most indicated they had not noticed any changes in the quality of beef. Only 6 percent of this group indicated the beef was tougher, and only 4 percent indicated the beef did not taste as good as before. More fatless, lean attributes were noted by 8 percent of this segment of homemakers.

Changes in quality were noted slightly more often by the higher educated consumers. About 30 percent of the college-educated homemakers in this group had noticed a change in beef quality, compared with about 17 percent of those with elementary or some high school education. While it is not possible to separate perceived changes in beef quality from actual ones, it is more likely that the more educated homemakers would have knowledge of the grading changes and the potential consequences than would the less-educated homemakers.

Thus, these results indicate continued confusion about authorized beef grade designations. Also, changes in USDA beef grading standards instituted in 1976 have evidently had little impact on the general consumer in terms of perceptions of changes in the quality of their purchases.

Visual Preferences

Respondents were shown three large color prints of unmarked porterhouse steaks before they answered a series of questions. The USDA grades represented in these prints included the three top quality grades. When the respondents were asked which steak they would prefer if each cost the same, nearly half indicated USDA Choice, one-third selected the USDA Good steak, while 18 percent chose the USDA Prime steak. Over 70 percent of those who selected either the USDA Choice or Good steaks as their first alternative stated "less fat" as a reason for selection.

Homemakers were also shown another set of three pictures of unmarked cuts made between the ribs of three different carcasses of beef. Nearly 80 percent selected USDA Choice over the Prime and Good cuts which were each chosen by about 10 percent of the respondents. Again, the main reason for ranking either the USDA Choice or Good cut first was that it had less fat.

An even clearer picture of consumers' dislike for fat on beef cuts was evident when the USDA Choice rib picture was altered to provide two additional views—one showing the rib with almost no exterior fat, and another showing about one-half the amount of exterior fat as in the original picture. When asked to rank their choices, nearly two-thirds selected the most closely trimmed steak. Only 6 percent selected the one with the most outside fat as their first choice, and nearly two-thirds made it their last choice.

These tests imply that most homemakers use fat as a criterion in selecting beef. This study also revealed that in four out of every five households surveyed someone deliberately avoided eating fat on cooked beef. The predominant reasons for this related to sensory characteristics, e.g., too greasy, undesirable taste. However, more than a fourth of the households were concerned with cholesterol level or health problems. About 20 percent of the homemakers also expressed a concern with weight/diet considerations.

In conclusion, the USDA Prime beef was least preferred, visually, by a majority of the surveyed homemakers. The USDA Choice beef was visually preferred by the majority of homemakers. It may be that these visual preference tests were influenced by the fact that the Choice beef grade is the most prevalent grade designation available on the market; that is, homemakers' visual preferences are simply conforming to their actual purchases. However, it was apparent that the presence of fat was an influencing factor in their visual preferences which may also carry over to their actual purchases. ■

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Nutrition vs. Waste in School Menus

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Soup and salad may be popular with the business lunch bunch but not with the high school set. Studies on the National School Lunch Program (NSLP) show leftovers (plate waste) for soup averaged 22 percent, with vegetables and salads with a waste rate of 28 and 32 percent, respectively.[1]

Plate waste in school lunch programs over the last several years has attracted attention from a number of public interest groups as well as from the general public. But relatively few broad quantitative studies of plate waste in the NSLP have been carried out. School feeding programs are given the responsibility by some to prevent obesity and by others to prevent malnutrition, especially among low income populations.

Description

This study, conducted during the fall of 1977, compared three alternative menu planning methods with the now implemented Type A "Offer vs. Serve" pattern. In this offer-serve system, senior high school students are "offered" all five components of the Type A meal (meat or meat alternate, bread, milk, fruit, and vegetables) but are only required to be served three. The alter-

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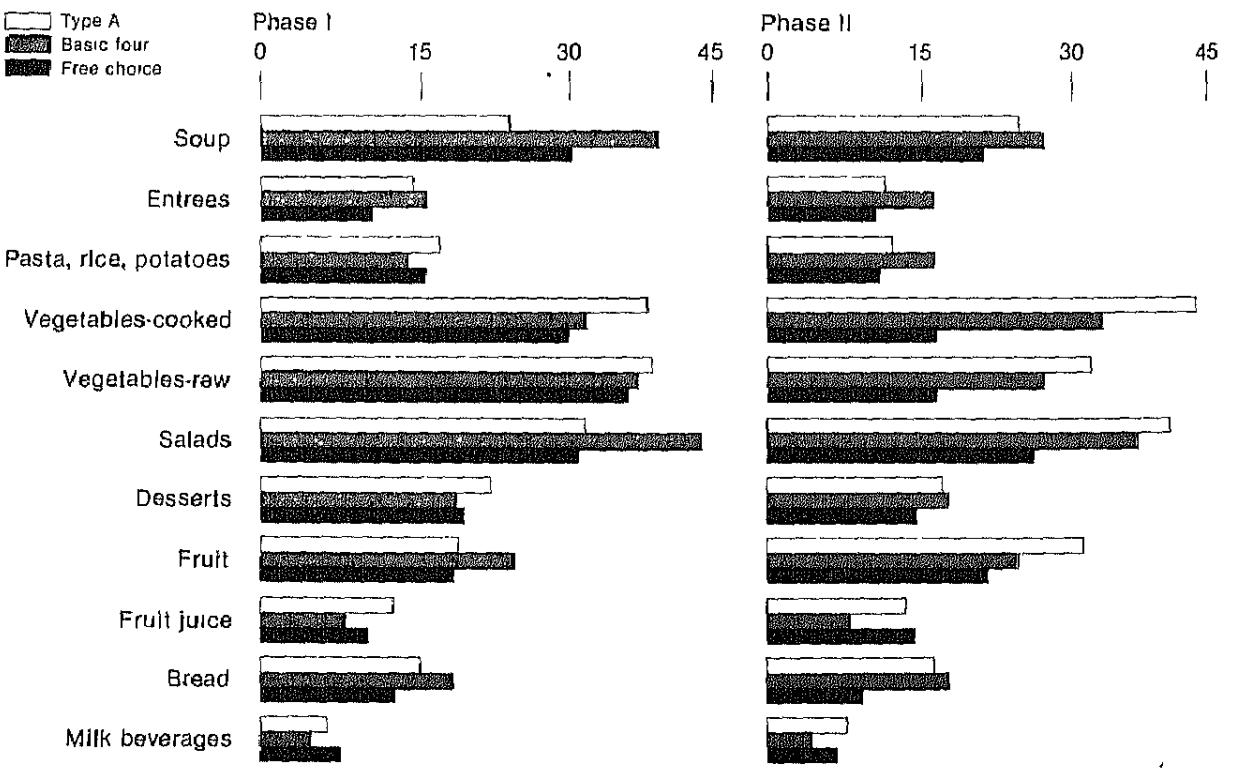
[1] A previous study (*National Food Review*, Fall 1979, NFR-8.) examined the effect of various methods of planning high school menus on student attitudes and meal costs.

Plate Waste: Percent of Food Served to Females



nate menu planning methods compared with Type A "Offer vs. Serve" were: The Type A pattern requiring selection of all five components; "Basic Four" a variant of Type A; and free choice or a la carte items. The latter was the biggest departure from the traditional Type A.

In phase I of the study, 48 high schools all used the "Offer vs. Serve" system. In phase II, one-third of the schools reverted to the complete Type A pattern, one-third switched to "Basic Four" and one-third implemented a "free choice" system. Serving size and plate waste data were collected during a 5-day period in each phase for a total of approximately 20,000 meals.

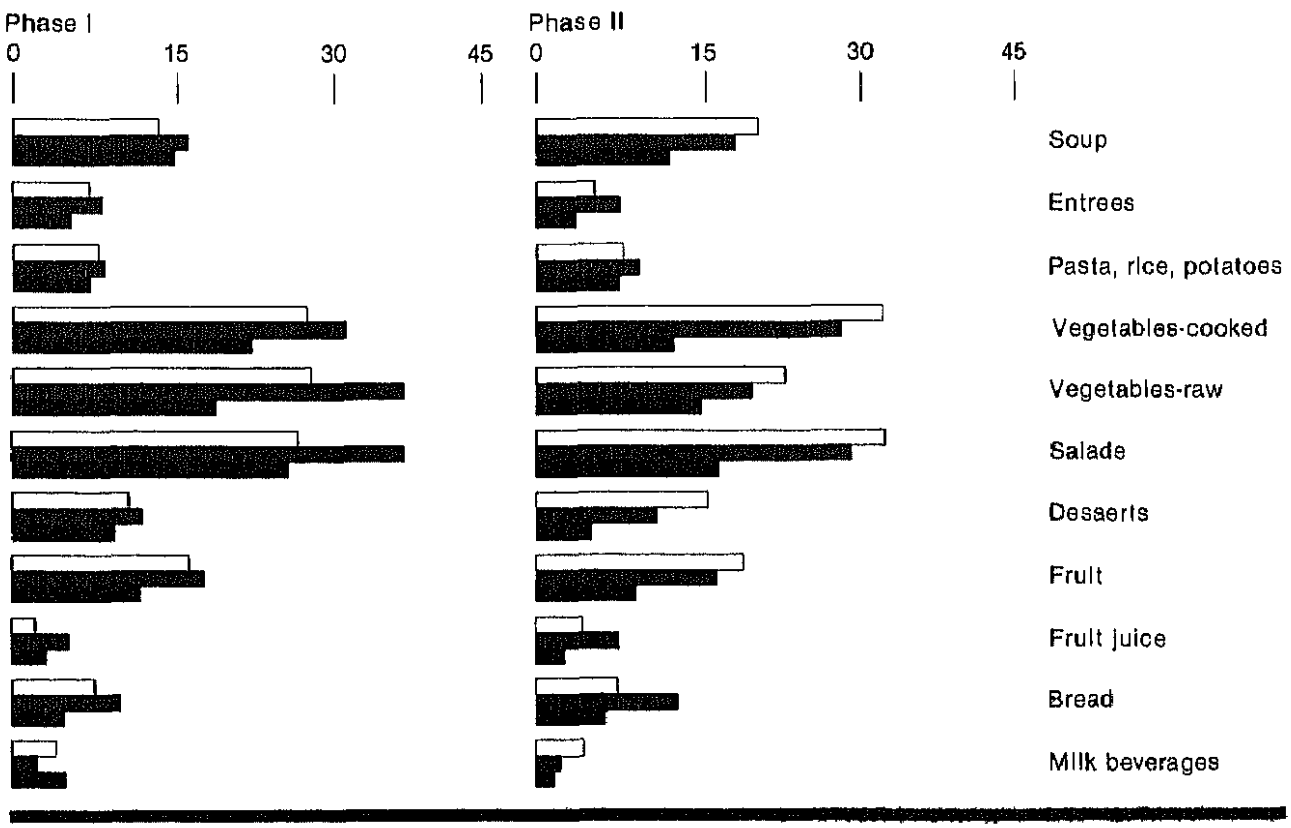
Plate Waste

Plate waste varied considerably depending on the menu item. Waste in main dishes was approximately 10 percent. Fruits were not particularly well consumed, with 20 percent left on the plates; however, only 8 percent of fruit juices served were discarded. Milk beverages were the most popular food category with waste only 5 percent.

When all foods served were examined, free choice significantly reduced plate waste for both boys and girls. Data demonstrate that excessive plate waste is not a general problem associated with all students and food categories. Instead, it is associated with particular menu items and subgroups of students. Total plate waste was nearly twice as high for high school girls as for boys.

Overall plate waste was 10 percent compared with 18 percent in a similar study carried out by Colorado State University in high schools in 1972/73.

Percent of Food Served to Meles



Nutrient Levels—Nutrient Goals

A school lunch is intended to provide one-third of the recommended dietary allowances (RDA's) established by the Food and Nutrition Board of the National Research Council for the appropriate age and sex groups.

For boys, food energy, iron, and thiamin were significantly below the nutrient goals in all age groups in both phases. In contrast, the levels of protein, calcium, phosphorus, vitamin A, riboflavin, niacin, and vitamin C all met or exceeded the nutrient goals.

For girls, iron was the only nutrient significantly below the nutrient goal for all age groups. All other nutrients except vitamin A were equal to or significantly higher than the goal. Vitamin A consumed in the free choice schools was below the nutrient goal in both phases, when students were served the Type A "Offer vs. Serve" system as well as free choice.

Nutrient requirements including energy are generally higher for boys than for girls at the high school level. For example, the RDA for energy is 3,000 kilocalories for boys and 2,100 for girls. Corresponding allowances for thiamin are 1.5 and 1.1 milligrams, respectively. Even though boys waste less food than girls, they have a little more difficulty achieving the nutrient goals. However, it is not uncommon in school feeding for appropriate portion size adjustments to be made at the point of service. To the extent that large boys are given extra large portions, and smaller girls reduced portions, the differences in plate waste and achieving nutrient goals attributable to sex will be minimized.

Nutritional Quality

It may not be realistic to expect that one-third of the daily energy and nutrient needs will be consumed in a school lunch, especially for boys since this means consumption of 1,000 kilocalories. Perhaps a more appropriate way to evaluate the nutritional quality of school meals is to compare nutrient levels per 1,000 kilocalories to nutrient goals based on the RDA's expressed in the same manner. When this is done it is apparent that the nutrient-to-calorie ratios in school meals are generally favorable. Since thiamin and iron are the two nutrients most often deficient in school lunches, the increased levels of these two nutrients in 1977/78 as compared with the study in 1972/73 is encouraging, as is the slight downward trend in fat as a percentage of calories.

Nutritional Quality of Lunches as Consumed (2 Studies)

Nutrient	1977/8	1972/3	1977/8	1972/3	Nutrient Goal
	Nutrients/meal		Nutrients/100 Kcal		
Energy (Kcal)	710	717			
Protein (g)	29.1	31.0	41.0	43.2	20
Calcium (mg)	438	436	617	608	471
Iron (mg)	4.3	4.1	6.1	5.7	7.1
Phosphorous (mg)	522	524	735	731	471
Vitamin A (mg)	1414	2018	1992	2814	1758
Thiamin (mg)	0.43	0.37	0.61	0.52	0.52
Riboflavin (mg)	0.79	0.76	1.11	1.06	0.64
Niacine-equivalents (mg)	10.8	10.9	15.2	15.2	8.7
Vitamin C (mg)	22.4	19.3	31.6	26.9	18
Percent fat calories	38.0	41.7	53.5	58.2	—

Implications

Considering the nutritional value of free choice lunches as actually consumed, these lunches were as high in nutritional quality as the lunches in schools following Type A menu patterns. However, it is of some concern that the vitamin A, vitamin C, and iron levels in free choice lunches as consumed were at marginal levels, especially among girls. Also, the opportunity to select free choice lunches is likely to affect some students' food choices more than others. It is possible that the students in most need of a nutritionally well-balanced lunch would be the ones most likely to select and consume nutritionally less adequate lunches.

Finally, because of the inadequacies of food composition tables, the present analysis only considers nine "indicator" nutrients out of the approximately 40 nutrients considered essential for growth and good health. Until food composition tables are improved, the levels of all these nutrients in school meals cannot be evaluated.

Any implementation of free choice should be combined with a vigorous nutrient-based nutrition education-program for students, food service workers, and lunch managers. Part of this program could be nutritional information in the lunchroom on the various menu items served.

A free choice system is a major change from the menu system that has served the National School Lunch Program for well over 30 years. However, in today's society, choice of food items is a reality for today's high school student. ■

Fast Food Industry Growth

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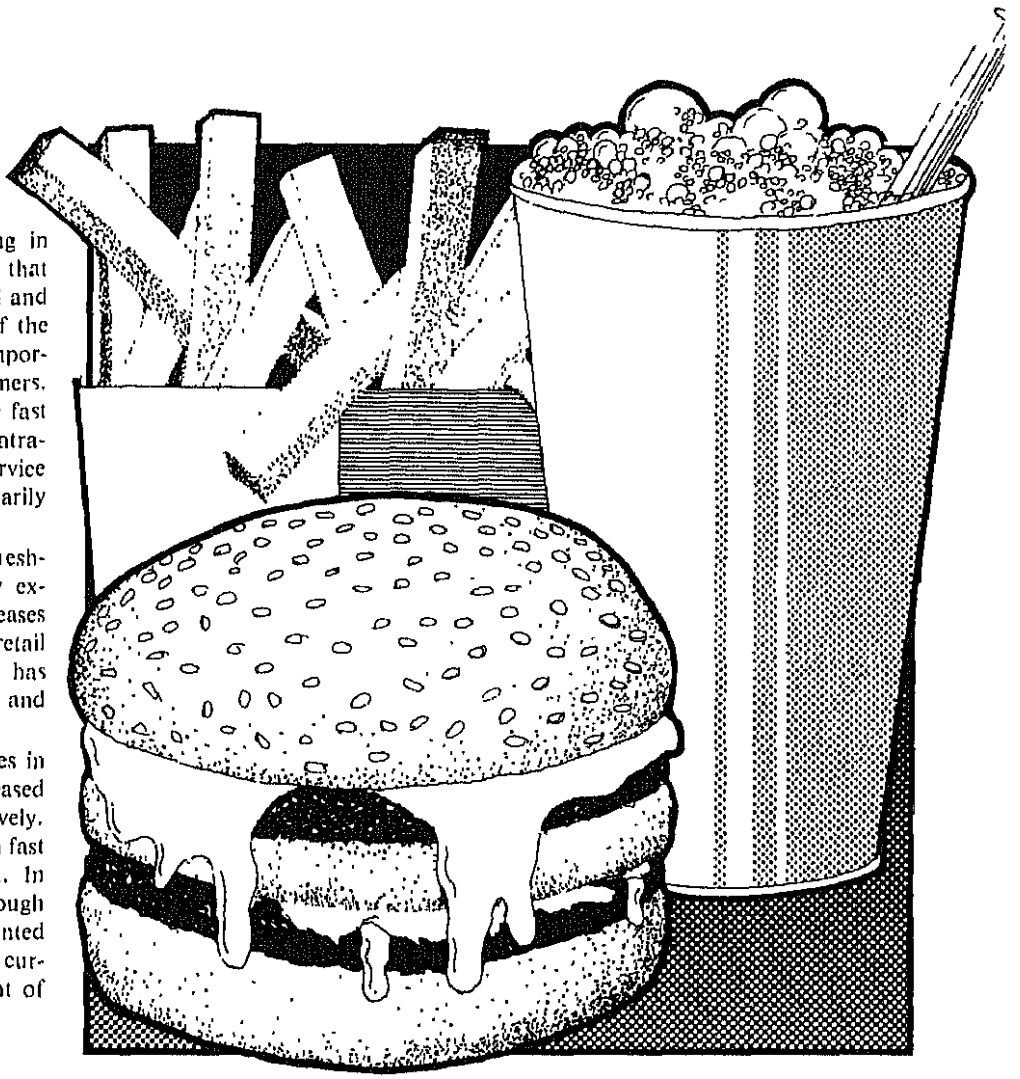

Important changes are occurring in the away-from-home food market that could affect the types of food sold and services provided, the efficiency of the food delivery system, and most importantly, the cost of food to consumers. The changes include growth of the fast food sector, rising industry concentration, and acquisitions of food service operations by large firms primarily engaged in other businesses.

The growth of fast food or refreshment place sales has substantially exceeded population and income increases and has been faster than for other retail food enterprises. This expansion has profoundly altered the structure and nature of the food service industry.

Between 1958 and 1978, real sales in foodstores and eating places increased 44 percent and 83 percent, respectively. During the same period, real sales in fast food places increased 305 percent. In 1978 dollars, sales of fast food through an estimated 100,000 outlets amounted to over $19 billion. Fast food places currently account for about 45 percent of the total number of eating places.

Growth of Establishments

The number of fast food outlets tripled between 1958 and 1972 while other types of eating places decreased 12 percent. Average sales per fast food outlet rose 94 percent during the period, after adjusting for inflation. Average sales of other eating places increased, but only 45 percent.

Fast food outlets are usually smaller in size than other types of eating places, which limits product selection and lowers average sales per unit. Fast food outlets averaged approximately three-fifths the size of other eating places during the 1958 to 1967 period. However, by 1972, sales per fast food outlet had increased substantially, and the units averaged about three-fourths the size of other types of eating places. While this trend probably will continue as fast food places expand their offerings, there is some indication that real growth in establishment size may be moderating.

Growth in Firms

Many fast food chains—firms with 11 or more outlets—have become very large. Real sales of fast food chains increased 1,123 percent between 1958 and 1972 while sales of chains that operated other types of eating places increased 147 percent. Sales by fast food chains would have shown a larger increase if the chains and 255 chains that operated other types of eating places. By 1972, the number of fast food chains had increased sales of single-unit franchises had been included with those of the franchise chains. Sales of single-unit franchises accounted for up to 23 percent of total sales by single-unit establishments.

Average firm sales for fast food chains grew 362 percent during the 1958 to 1972 period, more than three times the increase obtained by other eating place chains.

In 1963, there were 104 fast food

to 173 while the number of other eating place chains had dropped to 225. The number of fast food chain outlets grew by 209 percent between 1958 and 1972, while chains that operated other types of eating places increased by 139 percent.

Concentration

Concentration in the fast food sector is already higher than that in other food retailing industries, and further increases are likely. Sales of the four largest firms as a percentage of total fast food sales were 35 percent in 1972.

Currently, the four largest firms—McDonald's, followed by Kentucky Fried Chicken, Burger King, and Dairy Queen—account for 41 percent of fast food sales. The four largest firms in 1964 had only 20 percent of the market.

Who Owns Fast Food Firms

Most fast food outlets are affiliated with a franchise firm. Franchising enables the parent firm to expand its operation with only a limited capital investment. Most franchise operations closely parallel those of large corporate chains with trademarks, uniform identification symbols, storefronts, and standardized products and prices.

Although franchises enable independent owners to enter the food service business with limited experience and managerial information, a franchise is likely to require a sizable investment. It also tends to restrict managerial discretion in procurement, products sold, and sales practices. The franchisee, who actually owns and operates the fast food outlet, agrees to maintain specific uniform products, services, and practices in the operation of the business. Some franchisers now are reducing the availability of franchises by limiting or not licensing new ones and buying back existing ones that do not meet their standards of performance or from owners who may wish to leave the business.

Acquisitions and mergers typically occur when an existing food service firm acquires a relatively small firm that specializes in a particular segment of the market. But acquisitions and mergers also occur between food service firms and firms that are not in the food service business. This type of acquisition and merger is of special interest because it involves purchases of large fast food firms by even larger nonfood service firms. For example, five of the largest eight fast food firms are now owned outright or have a large equity interest controlled by nonfood service firms.

In 1977, about 21 percent of all eating place sales were at establishments that were owned by nonfood service firms. Food processors had 10 percent; beverage firms, 5 percent; and retail grocers, less than 1 percent. Other kinds of businesses, including chemicals, insurance, natural resources, pharmaceutics, and transportation, operated food service outlets that accounted for 6 percent of all eating place sales.

Constant Dollar Sales of Eating Places with Payroll[1]

Firm size[2]	Total Sales				Sales Per Establishment				Sales Per Firm			
	1958	1967	1972	Percent change	1958	1967	1972	Percent change	1963	1967	1972	Percent change
	Million dollars			1958-72	Thousand dollars			1958-72	Thousand dollars			1963-72
Eating places (SIC 5812)	13,238	17,955	22,359	68.9	77	95	107	39.6	92	105	125	36.2
Fast food places	1,120	3,418	6,784	505.8	45	63	87	94.1	63	71	108	71.1
Single units	826	2,603	3,989	382.9	42	87	57.0	51	56	67	30.2	
Multiunits	294	815	2,795	851.4	47	103	151	223.7	273	444	935	242.2
5 units or less	123	364	875	611.4	58	96	124	119.1	145	231	336	131.7
6-10 units	19	75	217	1135.2	64	105	134	108.1	498	622	1,024	105.5
Chains	152	376	1,703	1122.9	48	110	174	263.6	2,133	2,687	9,843	361.5
Other eating places	12,118	14,538	15,575	28.5	82	108	119	45.3	100	118	134	34.9
Single units	9,948	11,087	11,276	13.4	73	92	100	35.9	82	92	100	21.6
Multiunits	2,170	3,451	4,299	98.1	177	233	243	37.3	655	1229	1430	118.3
5 units or less	873	981	1,215	39.1	125	188	210	68.5	245	423	472	92.5
6-10 units	198	283	374	89.2	226	251	256	13.7	1,095	1,335	1,789	63.4
Chains	1,099	2,187	2,710	146.5	251	257	259	3.3	6,005	7,838	12,045	100.6

[1] 1967 = 100

[2] Prior to 1972 firm size groups were based on all outlets operated by the same firm in the same general kinds of business rather than the same business as in 1972

Source: U.S. Bureau of the Census, Census of Business for the respective years

Wage and Price Standards Review

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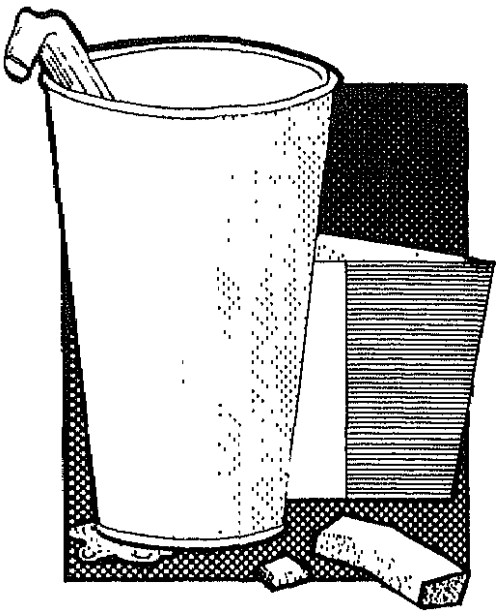

Behavior

In the past 2 years, fast food firms have been making a considerable effort to attract and keep customers. They have stepped up their use of price specials and such special promotions as discount coupons for amusement places and nonfood goods and services. In addition, firms are expanding their menu selections, changing the physical decor, and adding inside seating and some table service. Many have increased their expenditures for advertising.

Advertising expenditures by the largest 20 fast food firms in six media amounted to $225 million in 1977, about 1.8 percent of their sales.[1] In 1978, expenditures increased 23 percent to $277 million (still 1.8 percent of sales). Based on information in *Institutions*, a trade publication, a further increase in advertising expenditures of about 27 percent is indicated for these firms in 1979.

Part of this additional effort to attract and keep customers may be an attempt to serve a changing population. Teenagers made up a significant portion of the population in the sixties and were major customers of fast food outlets. But those teenagers are now in the 25 to 34 year age bracket—now the fastest growing population age group. Fast food firms have altered their menus, services, and promotions, to attract this older population segment.

Competition among large fast food firms, although intensified during the past 2 years, did not involve direct price reductions. Recently, however, McDonald's Corporation may have signaled the beginning of a new and more direct form of competition by reducing by 5 cents the price of hamburgers and cheeseburgers (from 43 to 38 cents and from 48 to 43 cents, respectively).

Although direct price competition among fast food firms will benefit consumers in the short run, long-term price competition could devastate fast food and other eating place firms whose pretax margins already have been reduced by higher food, energy, and labor costs.

Conclusions

The era of rapid expansion of fast food appears to be yielding to one of slower growth, and in some areas, saturation. Higher food, labor, and energy costs in the past several years, reflected in higher prices to consumers, are slowing the trend toward eating out. In addition, the increased costs of other goods and services which compete with food away from home for the consumers' dollar also may be slowing the growth of the fast food industry. Thus, the industry is not expected to sustain old rates of growth to which fast food firms have grown accustomed. This increases competition pressure among firms that strive to maintain past achievements. ■

As part of the anti-inflation effort, the Administration initiated a voluntary program of wage and price standards in October 1978. Food manufacturers, processors, wholesalers, and retailers were included in the program.

The first year of the voluntary standards program ended in September 1979. Although there is some dispute over the effects of the program on prices, many firms complied with program standards. Prices and wages increased less than would have been the case without an anti-inflation program. The program was revised, and continued for a second year as of October 1, 1979.

The First Year

The initial program limited price increases by firms voluntarily to a maximum of 9.5 percent, while wage increases were limited to 7 percent. Although the Government reserved the right to withhold contracts from firms not complying with the standards, the program was designed to be not only voluntary but also essentially self-administering. The Council on Wage and Price Stability (CWPS) was charged with the identification of firms not complying with the program standards. Large firms were requested to submit financial data directly to CWPS.

Percentage Margin Standard

A percentage margin standard was available to food wholesalers and retailers in lieu of the price standard because of the complexity of computing price changes for hundreds of products. Firms satisfied this standard if their adjusted net sales less the cost of goods sold as a percent of net sales did not exceed their margin trend, or if their margin percentage in the program year (October 1978 to September 1979) did not exceed that in the base year (October 1977 to

[1] Includes network television and radio, spot television, magazine and newspaper supplements, and outdoor advertising in markets of over 100,000 population.

September 1978).

Gross Margin Standard

Food manufacturers and processors were allowed to use a gross margin standard as an alternative to the price standard. This standard was satisfied if the change in firms' gross margins (adjusted net sales less the cost of goods sold) from the third quarter of 1978 to the third quarter of 1979 did not exceed 6.5 percent.

Profit Margin Limitation

Instead of satisfying margin standards, food manufacturers, processors, wholesalers, and retailers could use a profit margin limitation. This option was available to companies which could not satisfy the price standard because it was impossible to compute average price changes, or because of uncontrollable increases in costs. The profit margin limitation was satisfied if the ratio of profit to net sales was no higher than the average profit margin for 2 of the 3 years in the base period (1975 to 1977), and if program-year profit did not exceed base-year profit by more than 6.5 percent.

Most firms in the food industry elected to use margin standards as alternatives to the price standard. Data suggest that most food retailers could not have satisfied the profit standard.

The Second Year

In August 1979, CWPS solicited public comments on the first year's program. On September 28, 1979, a revised version of the first year program was announced.

Many of the basic rules established during the first year of the anti-inflation program were continued. However, major changes involved the creation of a tripartite pay advisory committee, the establishment of a price advisory committee, and the revision of price standards to apply across 2 years.

The tripartite pay advisory committee:

- Determines the pay standard for 1980, and reviews the exception and the noncompliance decisions of CWPS. The new pay standard allows for wage increases ranging from 7.5 to 9.5 percent.
- Recommends new or alternative interpretations of the pay standard.
- Makes recommendations assuring the equity of CWPS decisions.

The price advisory committee, with five members to be appointed from the public at large, makes recommendations to CWPS concerning modifications of the price standard or alternative interpretations of it. Like the pay advisory committee, the price advisory committee meets monthly.

The new standards include the following modifications:

- Firms are expected to limit their price increases in the second program year to no more than 8.5 percent (compared with 9.5 percent the first year). Price increases in each program year are not to exceed the price change during the base period.
- The profit-margin limitation is revised—growth in dollar profits is limited to 13.5 percent over both program years.

Criticisms

Critics of the program say that, first, if the program is voluntary then it is not in the self-interest of firms and unions to comply. Even so, many firms and unions have made deliberate efforts to comply. Second, critics say that the standards cannot be set equitably and some firms and unions will be penalized by their performance in the base period. But CWPS has made exceptions for firms which did not perform well during the base period. Third, since most firms and unions have little discretionary power to set wages and prices, critics say there is little to gain from using wage and price standards. Shortages may result if firms are forced to comply.

For the food industry, over the first two quarters of 1979, many retailers reported substantial increases in profits. In fact, food retailing has been one of the best performing sectors in the United States in 1979 in terms of profit increases. Most retailers have complied with the margin standard. But this standard allows unlimited increases in profit as long as margin percentages do not increase more than trend.

During periods when the cost of farm food products increases faster than other marketing costs, the maintenance of a constant marketing margin percentage must result in increased profit. This is exactly what happened in food retailing.

The success of the voluntary wage and price program depends on the extent that unions and firms actually have market power. It also depends on the extent to which decisionmakers comply voluntarily with program standards. Finally, success depends on the equitability of the program. The tripartite pay advisory committee and the price advisory committee could enhance this effort. ■

References

1. Council on Wage and Price Stability. *Wage and Price Standards: Revised*, Washington, D.C., December 13, 1978.
2. CWPS. *Anti-Inflationary Pay and Price Standards*, Washington, D.C., September 28, 1979.
3. Lamm, R. M. "The USDA Food Price Monitoring System," *National Food Review*, USDA, ESCS, Summer 1979, NFR-7.

Accuracy in Menus

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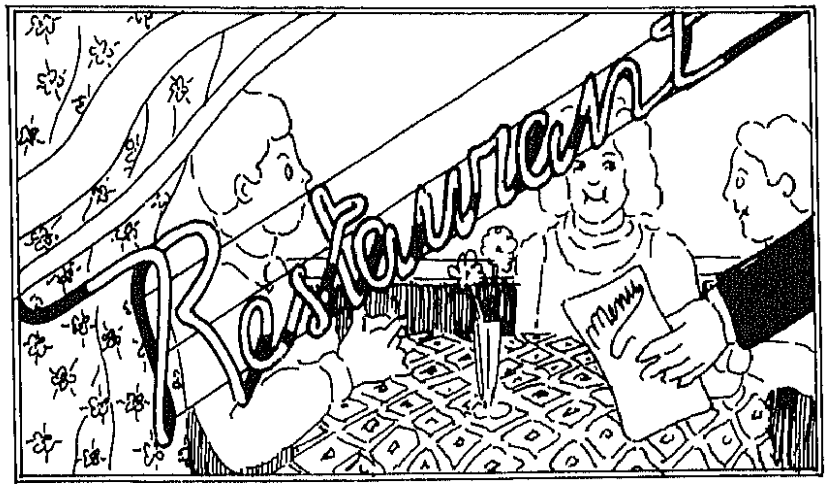


There are no labels giving information about the food eaten in restaurants, but there are menus, photographs, graphic illustrations, as well as verbal descriptions by employees. How accurate is this information?

The question of accurate representation of food purchased in restaurants, fast food establishments, cafeterias, or carry-outs is of growing concern to consumer groups, the food service industry, and regulators. Consumers are no doubt being misled in some eating establishments, and are paying for things they do not get.

Quality

Federal and State standards of quality are set for many restaurant products—meat, poultry, eggs, dairy products, fruits, and vegetables. When menu descriptions use the same terminology that Government standards use to describe quality grades, they imply that the same quality is being used. For examples, "prime roast beef" should be used only to describe USDA Prime grade beef. "Prime rib" is an exception as it is an established and understood description for a particular cut of beef rather than a grade quality, unless "USDA" is used.

Ground beef is served extensively at most restaurants. "Chopped choice sirloin of beef" suggests the use of USDA Choice grade ground sirloin of beef. In addition, when ground beef is printed on the menu, no extra fat, water, extenders, or binders are expected.

Quantity

Some food products lose weight when cooked, thus the weight indicated on the menu is generally the weight before cooking. When there is a difference in price for varying weights of steaks, it is assumed that the steak actually weighed as represented prior to cooking.

Quantity also may be implied by descriptive terms. For example, a bowl of soup should hold more than a cup of soup, and a double drink should be twice the size of a regular drink.

Product Identification

Substitutions are sometimes made because of nondelivery, seasonal nonavailability, or price. But consumers can except maple sirup not to be maple-flavored sirup, cream will not be half-and-half or nondairy creamers, and ground sirloin of beef will not be regular ground beef or ground beef with a protein extender. Any substitution made without notification to the consumer is misrepresentative and deceptive.

Price

If a gratuity, service charge, or cover charge is included in the price of the food purchased, it should be clearly indicated to the consumer. If any extra charge for special requests is not brought to the attention of the consumer at the time of the request, the consumer will not expect to pay extra for the order. And, if there are any restrictions in a coupon or premium promotion, this should be clearly defined.

Merchandising Terms

Misleading terminology used to overstate or enhance the product can allude to characteristics the product doesn't possess. For example, "homestyle" should be used instead of "homemade," "kosher style" should be used instead of "kosher" delicatessen; and "our own special sauce" should not be a commercially prepared sauce.

"Finest quality of beef" can imply USDA Prime grade to a consumer and should not be used if the USDA grade is Choice rather Prime. If commercially ground coffee is used, it should not be listed on the menu as "fresh ground."

The list of potentially misleading terms used in menu descriptions is lengthy, but with careful thought on the part of the food service operator the food descriptions can be accurate.

Method of Preservation

Foods are preserved in many ways—canned, frozen, chilled, bottled, dried, or dehydrated. Preserved food should not be described as "fresh" because "fresh" means that it is not preserved in any fashion. Thus, orange or grapefruit juice made from frozen concentrate should not be described as fresh or freshly squeezed.

It is also inaccurate to describe a canned fruit or vegetable as frozen. Or, when a consumer orders fresh fruit salad, the expectation is for all fresh fruits and not a combination of fresh, frozen, canned, or chilled.

Food Preparation

In general, a consumer's selection of a particular entree is determined by the way the food is prepared. For example, an individual on a special diet may order an entree only if it is broiled, baked, or poached. Thus, if an entree was described as broiled, but actually was sauteed or fried, the consumer would have been misled.

A food service operator should not only be accurate in the menu description, but food prepared in a special way, such as charcoal broiled, barbecued, smoked, or deep fried should also be included in the description since many people are allergic to, or attempting to avoid, particular methods of food preparation.

Dietary or Nutritional Claims

If foods described as "sugar free" or "salt free" are misrepresented, it can present a health hazard to those people who are under special dietary restrictions.

A similar problem occurs when food described as "low caloric" is not. This misrepresentation may not create a health hazard, but people attempting to lose weight think they are adhering to a low calorie diet in selecting food advertised as such. Nutritional claims should not be made unless they can be supported.

Verbal and Visual Presentation

A consumer looking at a picture on a menu, wall poster, or any other form of advertising expects to be served a meal, platter, sandwich, or beverage that is the same as the pictorial representation. Thus, if a picture has three thick slices of meat, the consumer does not expect two thin slices or small chunks. Mashed potatoes should not be substituted for a baked potato. Lettuce and tomatoes should be included in a sandwich if it is shown in the picture.

If a waiter asks, "Do you want cream in your coffee?" the consumer should not be served a nondairy creamer. Imitation sour cream or bacon bits should not be served when consumers are asked if they want sour cream or bacon pieces for their baked potato, nor should domestic blue cheese be used when the consumer orders a Roquefort cheese salad dressing.

Brand Names

Brand names or trademarks should not be used generically, and any brand or trademark product that is advertised should be the one served. The list of potential substitutes is very long.

If foods such as condiments, sauces, jams, or jellies are served in containers with a brand name printed on them, the contents should be the product appearing on the container label.

Point of Origin

Similar to the choice for method of food preparation, consumers may choose a food because it comes from a particular area. The point of origin depicts unique characteristics that the consumer expects when ordering the food. Some well-known examples are: Wisconsin cheese, Idaho potatoes, Maine lobsters, Florida orange juice, Virginia ham, Roumanian pastrami, Maryland crabmeat, or Dover sole.

Solutions

What kind of information can a consumer reasonably expect about the food purchased in a restaurant? They cannot see the labels on the packages of foods used by eating establishments, so they have no way of knowing if they are getting what they are paying for. The only way to find out is through visual or verbal presentations—such as printed menus handed to the consumer, menus posted on the wall of the establishment, or information received from a food server.

Until recently there was little organized concern to deal with this problem. However, some State and local governments—New York, Connecticut, and California for example—in cooperation with the food service industry have begun to do something about it. An example of what can be done is the program conducted in the District of Columbia by the D.C. Environmental Health Administration.

In 1977, a survey of the Accuracy of Menus in Public Eating Establishments in the District of Columbia was conducted. The survey revealed many inaccuracies in the language used to describe foods offered the consumer via the menu. The consumer was being served:

- Commercially processed and previously frozen products in lieu of fresh.
- Meat of a quality less than that stated on the menu.
- Domestic products when such products were described on the menu as imported.
- A cut of meat or a product different from that listed on the menu.
- A size or quantity of product which was less than that advertised.

Improving the accuracy of menu language entailed educating industry, regulatory agency personnel, and the consumer, and conducting a followup in enforcement of existing regulations. The corrective action consisted of seminars and workshops designed to assist management in developing accurate menu language. Guest speakers included representatives from the USDA and the National Marine Fisheries Service of the U.S. Department of Commerce.

A pamphlet, "Accuracy in Menu Language, Guidelines for the Food Service Industry" was developed. A "Menu Dictionary—A Food Language Guide for the Consumer" was also developed to help define the language relating to the specific identity and quality of foods listed on the menu. Industry management could consult with technical personnel on an individual basis to assure the accuracy of their menus. Finally, enforcement consisted of assessing demerit points against the establishment when, during a routine inspection by the sanitarian, supporting evidence could not be provided to assure that what was offered on the menu was actually served to the consumer. Management was advised to provide the correct product or correct the advertisement on the menu. A weekly listing of menu violators released as public information helped to improve the level of compliance.

In January 1979, another survey was conducted among 50 percent of the original establishments to evaluate progress and to compare the findings with the earlier survey. There was a significant decrease in menu disparities and it was concluded that the Accuracy in Menu Program in the District of Columbia is effective. The enforcement aspects of the program will continue in conjunction with the regular inspection activity.

Wherever an organized attempt has been made to establish menu accuracy, the food industry has complied voluntarily. In many instances, the inaccuracies were not deliberate. Some probable reasons for the inaccuracies are: Management's lack of knowledge and understanding of various food identities; the long-standing use of terms that have been accepted to describe a specific food item; management's desire to make the menu appealing; and the seasonal availability of some foods. ■

Accuracy in Menu Language Guidelines for the Food Service Industry, Washington, D.C.*

Menu Listing	Accurate Description	Improper Use
Fresh	Denotes recent production as in freshly baked bread	Serving a commercially baked or processed food product.
	A product which has not been frozen	Substituting a frozen juice, seafood, or vegetable.
	A product as grown or harvested which is not canned, dried or processed. Contains no preservatives	Salads made with commercially packed fruit sections which contain a preservative to extend shelf life
(In season)	A product which is readily available in the fresh state	Substitution of a frozen or processed food product
Cream	A product derived from fresh milk and contains a minimum of 18% milkfat.	The substitution of half and half (contains approximately 12% milkfat) or non-dairy coffee blends
Maple Sirup	A natural product obtained from the sap of the maple tree	The serving of imitation flavored maple sirup or blends known as table sirups
Stated Portion	Product listed on the menu by size or weight.	Serving portion smaller than stated.
Roquefort Cheese	A semi-hard cheese which derives its name from the village of Roquefort, France. Usually made from sheeps' milk but goats' milk may be used Looks like blue cheese but has a stronger flavor.	Making a substitution with blue cheese or serving a product which is not labeled Roquefort.
Chopped Ground Sirloin	A product labeled in this manner or derived from grinding of trimmings/portions of meat from the beef loin	Product labeled ground beef or derived by grinding meat which is not from the loin.
Veal Cutlet	A single slice of veal obtained from the veal round.	Substitution with veal steaks or patties
Country Ham	A dry cured ham prepared in the country.	Serving "Canned", "Smoked", or "Fully Cooked" hams

*Prepared by Environmental Health Administration District of Columbia Government

USDA Actions

Food Safety and Quality

Net Weight Labeling

USDA has obtained public comments on issues raised by an Economics, Statistics, and Cooperatives Service study on net weight labeling of meat and poultry products, from a request of the Food Safety and Quality Service.

The study, "Assessment of Proposed Net Weight Labeling Regulations," evaluates regulations proposed December 2, 1977, in response to a petition by California and 47 other States, and to complaints by many consumers.

The intent of the regulation is to enable States to enforce strict net weight standards at retail and to insure that the weight of usable meat and poultry purchased by consumers is at least equal to the weight stated on the package.

The Department provided a 60-day comment period to encourage consumers, industry, State and local weights and measures officials, plus other interested groups to comment on the study. About 3,000 comments indicated widespread disagreement among both industry and consumers on the need for new net weight rules and their probable economic impact.

The report concludes that the effects of the proposed rule change have been misunderstood by both consumers and producers. Consumers have argued that, without a drained weight rule, they must pay for unusable water. Producers, on the other hand, have argued that the proposal will add to their costs because more product will have to be packed in each consumer package. The study concludes neither assessment is accurate since the amount of drained weight meat available for sale is constant regardless of the net weight rule in effect.

Common Names for Nitrite-Free Meat Products

Products traditionally cured with nitrite may be produced without nitrite and, for the first time, labeled by their common or usual names. Prior to this new USDA regulation, hot dogs without nitrite, for example, would have to be labeled "uncured cooked sausage." This labeling practice discouraged producers of nitrite-free products and confused consumers. Processors can now better respond to consumers who prefer clearly labeled nitrite-free products.

Strict requirements must be met in the manufacture and storage of these products so that consumers who prefer to purchase uncured products can do so with assurance of their safety. The regulation provides that the labels on nitrite-free products must carry the word, "Uncured," as part of the product name and the statement, "No Nitrate or Nitrite Added." If no alternative method of preservation—such as canning, pickling, or drying—is used, the labels must also carry the warning: "Not Preserved—Keep Refrigerated Below 40 Degrees Fahrenheit at all Times."

A majority of the 365 commenters favored this no-nitrite proposal when it was published for comment in April 1978. Consumers can obtain a free copy of the publication on handling nitrite-free meats by writing to: U.S. Department of Agriculture, FSQS Publications, Washington, D.C. 20250.

Improved Processing Inspection

On September 13, 1979 a voluntary quality control program to improve and modernize inspection of processed meat and poultry products was proposed.

Under USDA's proposal, Department inspectors would have access to data collected from firms participating in USDA-approved plant quality control systems. This is the second step in USDA's efforts to improve the cost-effectiveness of meat and poultry inspection programs.

Voluntary quality control is part of a series of reforms. In April of 1979, USDA took its first step toward reform and initiated a more efficient inspection method—modified traditional inspection—which modernized procedures for inspecting slaughtered chickens. The reforms will permit improvements in other areas such as residue detection and control, inspection of imported products, and more stringent inspection of problem plants.

The result will be a strengthened overall inspection program and an improved level of consumer protection. Quality control systems are a significant step in streamlining the inspection program by allowing inspectors to make use of updated technology. Companies operating an approved quality control system will have the option of using a special logo as part of their package label.

The proposal would apply only to plants where meat and poultry is further processed into products such as soups, frozen dinners, franks, bologna, and other cold cuts. It would not affect slaughtering operations.

Uniform Work Schedules for Inspectors

A uniform policy has been proposed for providing inspection service to the meat and poultry industry and for setting the work schedules of USDA meat and poultry inspectors.

The proposed amendments to the meat and poultry inspection regulations would provide more efficient use of in-

spection personnel and establish rules for determining what constitutes overtime and holiday inspection services.

Under the proposal, specific guidelines are established for USDA's Food Safety and Quality Service (FSQS) to determine the assignment of inspectors to meat and poultry plants. The proposal also has guidelines for charging overtime inspection costs to the industry.

The proposal calls for plant operators to submit changes in work schedules so that inspection personnel can be assigned as efficiently as possible. It also allows small plants—which often work on an intermittent basis—to match their operating schedule to that of available inspection personnel to minimize overtime costs.

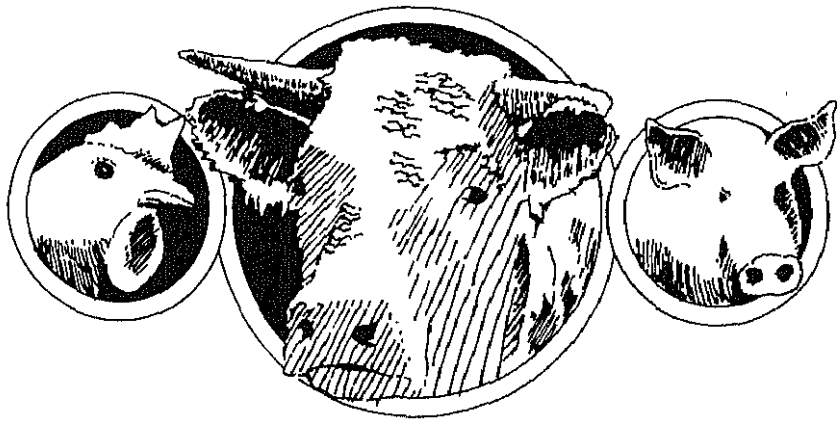
Inspectors performing post-mortem inspection duties would be limited to 10 hours of duty daily, and all other inspectors to 12 hours. Limiting work hours would help prevent inspector fatigue and assure properly inspected products for the consumer.

The proposed regulations would apply to all meat and poultry plants operating under Federal inspection and to official import inspection facilities as well as to exporters requesting and receiving inspection services.

The proposal was published in the Dec. 4 Federal Register. An impact analysis is available from William H. Dubbert, Acting Director of Divisions, Technical Services, MPI, FSQS, USDA, Washington, D.C., 20250, phone (202) 447-7470.

Nitrosamine Testing Program Successful

After 1 year, USDA's nitrosamine testing program—an effort to reduce the presence of cancer-causing nitrosamines in bacon—appears to have been successful.



All major bacon-producing plants have been checked several times and are producing bacon in compliance with USDA regulations.

In December 1978, USDA's Food Safety and Quality Service (FSQS) began monitoring bacon samples to determine if industry was meeting USDA's regulations that there be no confirmable levels of nitrosamine in pumped bacon. Nitrosamines are carcinogens that can form during frying when nitrites, used to cure bacon, combine with amines which occur naturally in meat. The lowest level at which nitrosamines can be confirmed on a general basis is 10 parts per billion.

During the first year of monitoring, FSQS tested more than 1,000 samples of pumped bacon from commercial plants selected at random. Bacon with confirmable levels of nitrosamines came from only 12 of the 355 plants tested. These plants produce less than 1 percent of the bacon made annually by pumping a nitrite cure into pork bellies.

Not only has the program been successful in reducing nitrosamines, but it has also stemmed industry fears that enforcement of USDA regulations would cause large numbers of bacon manufacturers to go out of business. This is because USDA provided technical assistance to help manufacturers meet the regulatory standards.

New Slaughter Regulations

Meat plants must handle and slaughter livestock humanely under final regulations announced by USDA's Food Safety and Quality Service (FSQS). Under the new regulations, all slaughtering plants must follow humane practices in handling livestock as well as in stunning them for slaughter. Although humane handling was not a requirement under previous rules, most slaughtering operations already handled livestock humanely during unloading and while in holding pens.

The rule also strengthens USDA's enforcement authority, since FSQS can now suspend or withhold inspection from domestic plants that violate the humane treatment requirements. Under the Federal Meat Inspection Act, meat slaughtering plants cannot operate without inspection. The only enforcement authority available before was to prohibit companies from selling meat to the Federal government.

Under the expanded authority, foreign countries exporting meat products to the United States must also comply with humane handling and slaughtering requirements.

USDA Consumer Grading Survey

USDA officials have begun a survey of consumer views about its grading systems for meat, poultry, eggs, dairy products, fruit, and vegetables.

Under the present system, USDA commodity graders apply such grade names as U.S. Prime, U.S. Fancy, and U.S. grade AA.

The survey will have two phases. The first, "focus group" interviews with small groups of consumers throughout the country, is being conducted under contract with USDA's Food Safety and Quality Service (FSQS). Comments from consumers in these discussions will help from specific questions for the second phase, a nationwide telephone survey.

Some of the things USDA wants to find out are: What food quality means to consumers, whether consumers use the grading system, and how consumers think information on food grading should be given to the public and who should provide it.

After studying survey results, FSQS officials will consider the need for change in the current grading system and, if necessary, seek further comment on options through a series of public hearings.

Food Assistance

School Food Program Management

USDA will distribute to States an additional $4 million in administrative funds in 1979 to improve management funds of school food programs.

The money will be used to identify and correct administrative problems such as improper claims for reimbursement and claims for meals that do not meet Federal nutrition standards. USDA will propose a single system, known as the Assessment, Improvement, and Monitoring System (AIMA), for this purpose.

Under the rule, 40 percent of the funds will be divided equally among all States. The remaining funds will be allocated according to a formula that takes into account the total number of school systems, the number of free and reduced price meals served, and the number of large school systems (40,000 or greater enrollment) within each State.

The extra funds distributed under the new rule will enable States to begin management improvement activities.

New Food Packages for WIC

Food packages provided to women and children under USDA's Supplemental Food Program for Women, Infants and Children (WIC) would be geared to their different health and nutritional needs under new rules proposed recently.

Currently, the WIC program provides only three types of food packages—one for infants, one for women and children, and one for children with special dietary needs.

Under the new proposal, the program would provide seven food packages geared to the dietary needs of the different participants. In addition, USDA is proposing to limit the sugar content of cereal available through the program.

The seven food packages would be geared to: infants from birth to 2 to 4 months; infants from 2-4 to 6 months; infants from 6 to 12 months; children from 1 to 5 years; children from 1 to 5 years with special dietary needs; pregnant and breastfeeding women; and women who have completed breastfeeding. The food package includes such items as iron-fortified infant formula and cereal, eggs, milk, adult cereal, cheese, and juice. The proposed changes in the food packages were published in the Federal Register on Friday, Nov. 30

Extra Funds to States for Food Aid Programs

USDA announced plans to allocate an additional $60,000 to each State for administering the child care food program and the commodity distribution program.

Under the regulation, USDA will allocate a minimum of $30,000, plus a prorated share of remaining funds to each State to administer the commodity distribution program. Currently, a State may use its funds for administering this program, but no funds are earmarked for that purpose.

General Interest

Structure of Agriculture

Public meetings were held in 10 locations during November and December to get comments and suggestions on the economic and social issues affecting the structure of American agriculture and rural life.

Twelve broad areas of concern considered were: land ownership, control and tenancy; barriers to entering and leaving farming; production efficiency, size of farms and the role of technology; Government programs; tax and credit policies; farm input supply system; farm product marketing system; present and future energy supplies; environmental concerns, including conservation and use of soil and water; returns to farmers; costs to consumers; and, quality of life in rural areas.

The goal was to determine how these concerns have affected local farms and communities and what changes in public policy might be needed in the future.

Research and Increased Agricultural Production

Although there is justifiable concern over the increased use of herbicides, insecticides, and other agricultural chemicals, technology and continuing research are essential components in increasing U.S. agricultural production.

Several steps USDA has taken to help operators of small farms and other rural residents include:

- Increased credit programs under the Farmers Home Administration;
- A special $1.3-million fund for rural development and conservation projects under the Agricultural Stabilization and Conservation Service;
- Appropriations of $3 million for small farm research;
- Initiation of a study of intensive organic farming; and
- Increased efforts to develop integrated pest management, which emphasizes biological, cultural, and genetic, rather than chemical means of reducing environmental and human hazards in controlling pests.

HUD and USDA Extend Rural Demonstration

A demonstration program to improve the quality of life for low income persons in small communities and rural areas in four States has been extended for 2 years.

California, Colorado, Illinois, and West Virginia will share $54.7 million in funds from the co-sponsoring agencies, USDA and the Department of Housing and Urban Development (HUD). In addition, HUD will provide rental assistance to low income families for up to 500 units of new housing construction.

The demonstrations began in the four States in August, 1977. Since then, about $40 million in HUD and USDA's Farmers Home Administration (FmHA) funds were used to identify rural needs and to deliver housing and programs to smaller communities.

In the first 2 years of the program, more than 20,000 rural families and individuals were aided. For example, over 1,700 units of assisted rental housing are now under construction or have been completed and occupied, and more than 780 single-family homes which lower income families can afford have been built.

In addition, about 1,300 deteriorating homes have been rehabilitated and about 2,000 families provided with essential sewer and water facilities. Many of the rural poor were aided through the extensive outreach and counseling made possible by the demonstration.

If the extension proves successful, the fundamentals of each State's program can be transferred to other States in the Nation to improve the delivery of housing and community development services to rural poor in these areas

Federal Crop Insurance Expanded

USDA's all-risk Federal crop insurance program will be available in 150 additional counties in 28 State in time for the 1980 spring planting.

The addition is the maximum allowed under current law, however, legislation currently pending in Congress would permit expansion of the crop insurance program at a faster rate.

The selection of the counties by USDA's Federal Crop Insurance Corporation (FCIC) Board of Directors was based on the need to provide additional crop protection in those counties. About 250 counties had applied to be admitted to the program.

The FCIC program provides producers the opportunity to insure their major crops, thus guaranteeing themselves an established income should those crops be damaged or lost due to natural hazards. ■

Food Legislation

Gail Ann Clark and Joyce Allen
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1980 Food Stamp Legislation

Congress continues to debate the Administration's proposal to remove the cap on the Food Stamp Program for the remaining 2 years of the 1977 act. The House Agriculture Committee began consideration of the Food Stamp Act Amendments of 1980 (H. R. 5907) on December 6.

The Administration is seeking legislation which would eliminate the need to forecast the economy before setting the fiscal year's food stamp ceiling. Congressional limitations on food stamp spending would be retained (subject to the amount of money appropriated) but the removal of the specific dollar appropriation ceiling would allow the program to continue in periods of extreme food price inflation and unemployment when program expenditures increase dramatically. The sensitivity of the program to general economic conditions may be illustrated by the fact that a 1-percent increase in unemployment adds about 700,000 persons to the Food Stamp Program. A 1-percent increase in the Consumer Price Index (CPI) for food boosts the program's costs by $55 million per year.

When the Food Stamp Act of 1977 was enacted, the projections used to establish the ceiling indicated an annual food price inflation rate of 3 to 4 percent. However, food prices have increased over 22 percent during 1978/79 alone. These increases have dramatic impact on program costs. When it became apparent that the 1979 program authorization was inadequate, Congress responded by raising the ceiling for fiscal year 1979 (Public Law 96-58, August 14, 1979) thus averting the funding crisis for 1979. However, USDA feels the crisis could be repeated as current USDA projections are that the spending cap for 1980 provides only 75 percent of the funds needed for the full fiscal year.

The remaining elements of H. R. 5907 include revision in income deductions, use of food stamps by women living in shelters for battered women, a State option for monthly retrospective accounting, and expanded verification of income of food stamp applicants.

USDA's Food and Nutrition Service believes that these changes, coupled with those authorized in the 1979 Food Stamp Act (P. L. 96-58), will improve the program's fiscal accountability by reducing error and fraud. The three elements that were adopted as part of the 1979 Act authorize:

- The Secretary of Agriculture or States to require Social Security Numbers, and provides access to certain HEW data relevant to determining eligibility.
- A requirement that individuals disqualified for fraud and wishing to reenter the program repay the fraudulent amount either in cash or in reductions in their coupon allotment.
- States to keep 50 percent of the money they recover or collect in the pursuit of fraud.

Fuel Stamps

If some Members of Congress have their wish, USDA's Food Stamp Program will take on a new function—assisting in home-heating and energy costs via "fuel stamps."

Congress is currently considering a number of bills which would aid low income families and the elderly in meeting the rising costs of home-heating bills. There are a variety of approaches being considered which involve many different House and Senate Committees.

Several of these bills would tie the fuel assistance program directly to the Food Stamp Program. Under one such proposal, participating food stamp families would receive increased food stamp allotments for the months from December to March. Another would authorize food stamp families to also receive "fuel stamps" from December to March.

The Administration is opposed to the House bills which would make the Food Stamp Program the vehicle for fuel assistance this winter because there is not enough time to design, print, and distribute fuel coupons. Instead, the Administration supports a cash assistance program as the most efficient way to assist people with their fuel needs.

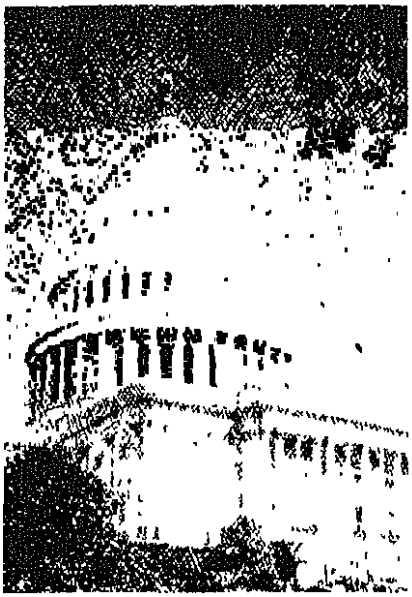
On November 27, the President signed into law a 1-year program to provide $1.6 billion for energy assistance. Of this amount, $400 million was allocated to Supplemental Security Income (SSI) recipients, $800 million to the States in block grants, and $400 million to the Community Services Administration for the Energy Crisis Assistance Program.

Sugar Stabilization Act of 1979

Since the defeat of the Sugar Stabilization Act in the last moments of the 95th Congress, interested parties have been trying to revitalize and push implementation of legislation which will provide the authority for implementation of the International Sugar Agreement (ISA) to help stabilize world sugar prices and authority for a domestic sugar program.

The House of Representatives defeated the International Sugar Stabilization Act of 1979 (H. R. 2172) by a 158-249 vote. The Administration was pushing for the bill's enactment, calling it a "compromise bill—the result of more than 2 years work by all sweetener interests, representatives of consumer groups, the Congress, and the Administration."

There were three basic elements in H. R. 2172, the Administration's sugar program:



■ An International Sugar Agreement to stabilize world prices.

■ An effective domestic price support program to maintain a viable domestic sugar industry.

■ A system of equitable wage rates for sugar field workers.

The United States was one of the foremost proponents of the International Sugar Agreement (ISA). However, as of this date, it has not been ratified by Congress. Frank Church, Chairman of the Senate Foreign Relations Committee, announced that he would schedule committee action on the ISA after completing action on SALT II.

The ISA would stabilize world prices by encouraging cooperating nations to hold stocks when prices are low and release them when prices rise. World prices, now running a little above 9-1/2 cents, would be stabilized between 11 and 21 cents. The Administration has agreed to use its Administrative Authority, provided in the Agricultural Act of 1949, to raise domestic price supports from 15 cents to 15.8 cents n pound when the committee considers the ISA.

In addition, H. R. 2172 would have established a 15.8 cent per pound (raw value basis) market price objective for the 1979/80 sugar supply year and authorize up to one-half cent per pound (raw sugar equivalent) Government payment to domestic sugar growers, when the season's average market price was below 16 3 cents per pound. The bill would mandate adjustments in the market price objective for sugar in subsequent supply years, keyed to changes in the cost of production. Annual increases would not exceed 7 percent. Maximum support levels under the bill for the 1980/81 and 1981/82 sugar supply years would be, respectively, 16.9 and 18.0 cents per pound plus up to a 0.5 cent-per-pound payment

Other provisions of the bill set a minimum wage of $3.30 per hour (after October 1, 1979) for sugar crop field workers and provides loan guarantees for industrial alcohol production from sugar and other sweetener crops.

Dairy

Congress has acted upon legislation which would extend the support price for milk at 80 percent of parity until September 1981. The bill was signed by the President on November 28.

Meanwhile, Secretary Bergland has announced that the support price for manufacturing grade milk in the 1979/80 marketing year is 80 percent of parity or $11.22 per hundredweight for milk with a milkfat content of 3.5 percent. This price must be adjusted on April 1 to reflect the estimated change in the index of prices paid by farmers and is expected to rise to about $11.72. The 80-percent-of-parity support level is being set to assure an adequate supply of milk, to reflect changes in the cost of production, and to assure dairy farmers an income that will enable them to maintain sufficient productive capacity to meet anticipated future needs.

The legislative authority for the support level for dairy comes from the Agricultural Act of 1949. The basic 1949 Act requires that milk prices be supported at 75 to 90 percent of parity. This Act was amended by the Food and Agriculture Act of 1977, raising the minimum support level for milk from 75 to 80 percent of parity for a 2-year period. In addition, the 1977 Act requires that the support price be adjusted semi-annually, through March 1981, to reflect any estimated change in the parity index during the first 6 months of each marketing year.

Agriculture Adjustment Act of 1979

The House of Representatives approved legislation (H. R. 3398) to increase the target price for wheat and corn. The bill would amend the Food and Agriculture Act of 1977 to increase the 1979 target prices for wheat from $3.40 to $3.63 per bushel and for corn from $2.20 to $2.35 per bushel. Target prices for grain sorghum and barley would be adjusted to such levels as the Secretary of Agriculture deems fair and reasonable in relation to corn.

The Senate Agriculture Committee rejected the target price increases for this year but voted for the 7-percent increase for the next crop year.

A House-Senate conference was scheduled for January 1980. In the wake of the President's recent suspension of grain sales to the Soviet Union, substantial change is expected in this legislation.

Welfare Reform

On November 7, the House approved the welfare reform bill (H. R. 4904) supported by the Carter Administration. Although the incremental approach to welfare reform passed the House by a 222 to 184 vote it is expected to face problems in the Senate. Finance Committee Chairman Russel Long is opposed to the major provisions contained in H. R. 4904.

PUBLICATIONS

The comprehensive welfare reform act, The Better Jobs and Income Program, proposed to the Congress by the Administration on September 12, 1977 was defeated in the 95th Congress. The proposed legislation, would have replaced the Food Stamp Program (FSP), Supplemental Security Income (SSI), and Aid to Families with Dependent Children (AFDC) with a single program providing a national minimum benefit level. As approved by the House, H. R. 4904 will not significantly affect the operation of the Food Stamp Program.

Specifically, H. R. 4904 would require States to provide AFDC payments that along with benefits from FSP would equal to 60 percent of the official poverty level beginning January 1, 1981 and 65 percent of the poverty level beginning October 1, 1981. Currently, there are 14 States in which AFDC benefits, plus the value of food stamps, are less than 65 percent of the poverty level. In addition, states would be required to provide payments to two-parent families when the principal earner's wages are less than $500 a month or the earner is unemployed and other eligibility requirements are met.

Payment of cash in lieu of food stamps to SSI recipients who live alone, or with an SSI eligible spouse, or in a household containing only SSI recipients is required by H. R. 4904 starting in fiscal 1982.

An amendment proposed by Rep. Jeffords which allows States to ask USDA to provide cash instead of food stamps to households containing only persons 65 years of age and older who are not eligible for SSI was adopted 406 to 2. The House approved an amendment almost identical to this one in 1977 by a voice vote. However, it was defeated in conference committee and was replaced by a pilot program. ■

Convenience Foods and Home-Prepared Foods, Comparative Costs, Yield, and Quality, by Larry G. Traub and Dianne D. Odland, National Economics Division, ESCS, USDA, AER-429.

In this report convenience products were shown to represent about half the sales of foods purchased for consumption at home. Based on retail food prices collected from chain grocery stores in Philadelphia, Milwaukee, San Francisco-Oakland, and New Orleans, 58 percent of the convenience foods studied cost more per serving than their fresh or home-prepared counterparts. Most of the convenience foods studied required less time and fuel for home preparation and did not differ significantly in eating quality from their counterparts made from a home recipe.

Consumer Attitudes Toward Food Labeling and Other Shopping Aids, by Richard Smith, Judy Brown, and Jon Weimer, ESCS, USDA, AER-439, October, 1979.

According to two national surveys examing consumer food-related behavior, most shoppers need and want food labeling and other shopping aids. Survey results indicate that open dating and individually priced food packages are particularly important to food shoppers. They want more food-storing instructions and nutrition data, along with prethaw information on frozen food packages.

Food, the first of a new series of nutrition booklets by the U.S. Department of Agriculture.

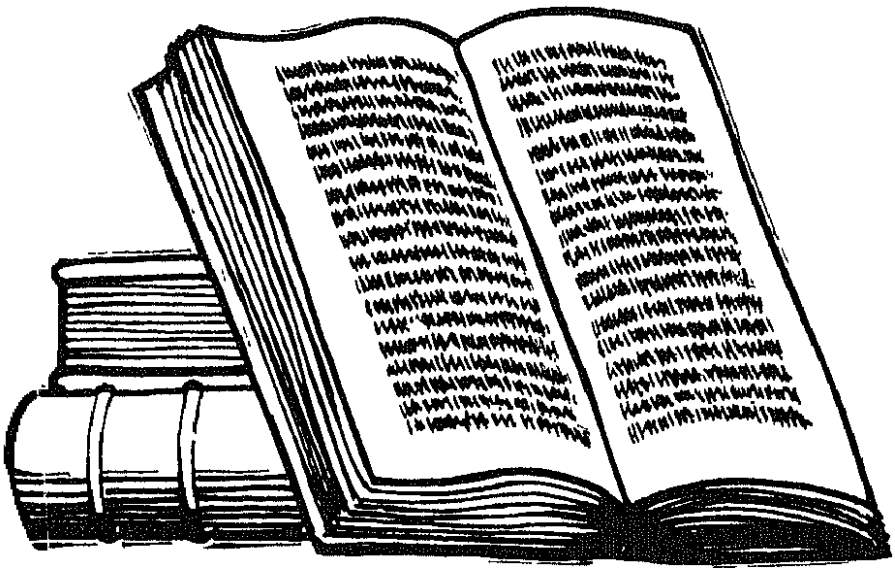
This series is designed to help the public choose healthful diets, offer up-to-date information on current food and nutrition issues, and suggest ways to apply this information in making food decisions. The booklet includes a new version of the daily food guide, with five food groups rather than the traditional "Basic Four;" suggests ways to choose foods for their calories as well as the nutritional company they keep; and also discusses fats, sodium, fiber, sugar and iron. Single free copies of "Food" (G-228) may be obtained from the Consumer Information Center, Dept. 693-G, Pueblo, Colo., 81009. Copies are also for sale for $3.25 each from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402.

Structure Issue of American Agriculture, USDA, ESCS, AER-438, November, 1979.

This compendium of articles provides a description of current farm structure, the factors that have influenced it, and some problems which may evolve in the future. The report is an extensive look at U.S. agriculture as it relates to structural characteristics, and includes sections on the setting, farm production, public policies, marketing, rural America, and farm structural policy in other countries.

Proceedings of Symposium on Farm Real Estate: Issue Raised by the Tax Reform Act of 1976, ESCS, USDA, ESCS-73, November, 1979.

The Tax Reform Act of 1976 is probably the most sweeping revision of tax statues since adoption of the current code in 1954. Three types of changes were made in estate taxes by this Act. The first group affects all estates by unifying estate and gift taxes, and generally reducing estate taxes. The second type of change was directed specifically at farmland and other closely held estates, allowing a "use of value" to substitute for market value in tax calculation. The



third group focused on a change in how income taxes are levied, relating to the "carryover" basic provision.

Major Uses of Land in the United States: 1974, by H. Thomas Frey, ESCS, USDA, AER-440, November, 1979.

This report continues the series on major uses of land in the United States; reports are issued at 5-year intervals coincident with the periodic census of agriculture. Estimates of the area in various land uses are presented. Changes and trends in land use are also identified and measured.

The Impact of Race on Consumer Food Purchases, by Larry E. Salathe, Anthony E. Gallo, and William T. Boehm, ESCS-68, USDA, August 1979.

This study examines the food expenditures of Black and White households using data from the 1972-74 Consumer Expenditure Survey. The effects of income and residence on food purchasing behavior were isolated by estimating separate econometric models for each racial group. Black households spend less per capita on food at home and food away from home than White households. Much of this difference can be explained by income differences. However, both households still exhibit different purchasing patterns for a majority of the foods studied, after the effect of income difference is removed.

Food Consumption, Prices, and Expenditures, by Allen O. Johnson, ESCS, USDA, AER-138, 1977 Supplement, September 1979.

This supplement revises and updates through 1977 the statistical information contained in the July 1968 issue of *Food Consumption, Prices, and Expenditures.* Food consumption data for all major food groups and many individual fresh and processed food items are reported. Nutrient intake, retail prices, and expenditures for food also are included.

Agricultural Exports by Cooperatives, by Donald E. Hirsch, ESCS, USDA, Farmer Cooperative Research Report 5, August 1979.

This publication examines the role that cooperatives play in returning more of the export marketing margin to farmers, and in supplying U.S. agricultural commodities to both newly developing foreign markets and established markets. The author concludes that farmer cooperatives have served their members effectively and have helped to create a favorable balance of international trade in agricultural commodities.

Grocery Retailing Concentration in Metropolitan Areas: Economic Census Years 1954-72, by Gerald E. Grinnell, Russell C. Parket, and Lawrence A. Rens, ESCS, USDA, Bureau of Economics, Federal Trade Commission.

Grocery retailing is an important link between consumers and other participants in the food system. Rapidly increasing food prices in recent years have focused attention on pricing, competition, and other aspects of food retailing. Data included in this publication are measures of concentration, employment, selling area, and other characteristics of grocery retailing in the Standard Metropolitan Statistical Areas.

Establishing a Trout-Marketing Cooperative, by James L. Goff, Ralph W. Dutrow, and Raymond Williams, ESCS, USDA, Farmer Cooperative Research Report No. 12, August 1979.

Trout growers are considering forming a cooperative to meet the volume requirements of new markets like restaurants and supermarkets. A processing and marketing cooperative for trout would fill an existing gap. It could provide the market with a single agent capable of furnishing an adequate quantity and quality of trout. A processing and marketing cooperative would be economically viable. In this report, initial operating capital for a volume up to 1,260,519 pounds of trout is estimated at $329,500 ■

Publications noted in this section may be obtained by writing the sources listed. For publications without addresses, call (202) 447-7255 or write to ESCS Publications Unit, Room 0054, South Building, U.S. Department of Agriculture, Washington, D.C. 20250. All publications are free of charge unless otherwise noted.

Statistical Highlights

Consumer Price Index for all Urban Consumers, U.S. Average (not seasonally adjusted)

	Annual		1979							
	1977	1978	Mar	Apr	May	June	July	Aug	Sep	Oct
					1967 = 100					
Consumer price index, all items	181.5	195.4	209.1	211.5	214.1	216.6	218.9	221.1	223.4	225.4
Consumer price index, less food	178.4	191.2	203 8	206.3	208.9	211.8	214.2	216.9	219.6	221.8
All food	192.2	211 4	230.4	232.3	234.3	235.4	236.9	236.3	237.1	238.2
Food away from home	200.3	218.4	236.0	238.4	241.1	242.7	244.9	248.5	247.8	249 6
Food at home	190.2	210.2	229.9	231.7	233.4	234.2	235.5	233.9	234.7	235 4
Meats[1]	174.2	208.8	244.2	248.3	252.1	249.8	248.0	237.8	238.1	238 6
Beef and veal	163.6	201.0	252.1	262.5	270.3	286.9	268.4	251.9	254.2	256 2
Pork	188.6	213.1	233.4	225.9	222.2	217.2	215.1	207.4	206.5	204.3
Poultry	156.7	172.9	189.9	189.9	188.0	187.2	186.2	177.1	174.8	170.3
Fish	251.6	275.4	294.0	295.8	297.2	301.0	304.3	306.5	309.7	311.5
Eggs	166.9	157.8	181.3	179.3	172.9	181.9	185.8	161.8	170.7	161.3
Dairy products[2]	173.9	185.6	201.5	202.4	203.8	205.5	208.3	208.8	211.3	213.3
Fats and oils[3]	191.4	209 6	219.5	222.5	225.3	226.3	227.4	228.9	231.5	231.9
Fruits and vegetables	191.6	212.9	225.9	228.5	226.8	233.8	238.1	237.8	231.8	232 0
Fresh	193.4	218.5	230.5	230.7	231.0	243.3	249.4	247.5	234.7	235.5
Processed	188.8	208 7	222.7	223.9	224.2	225.4	227.8	229.2	230.6	230.1
Cereals and bakery products	183.5	199.9	213.5	214.5	216.2	217.8	220.1	223.7	225.8	227 0
Sugar and sweets	229.4	257.5	272.1	274.2	276.3	277.4	279.4	281.0	282.0	283.1
Beverages, nonalcoholic	322.4	340.8	347.1	347.7	349.3	350.4	354.8	361.8	367.7	372.1

[1]Beef, veal, lamb, pork, and processed meat
[2]Includes butter.
[3]Excludes butter

Livestock Products: Per Capita Consumption Indexes, Quarterly[1]

			1978			1979[2]			
	1977	1978	II	III	IV	I	II	III	IV
					1967 = 100				
Meat	107.0	103.0	101.7	101.7	104.7	99.8	97.3	99.4	99.9
Poultry	119.4	125.9	123.2	127.8	142.1	119.0	135.9	142.2	153.3
Eggs	84.8	86.5	85.5	85.5	89.4	87.5	88.5	87.5	91.4
Dairy prod. excluding butter	101.0	101.5	100.9	101.9	101.7	101.9	102.2	102.1	101.9
Animal fats including butter	61.0	63.3	59.7	61.7	66.7	66.6	61.3	67.0	68.2
Total livestock product[3]	102.5	101.3	100.0	100.7	104.0	99.3	99.1	101.1	102.5

[1]Civilian consumption only. Quantities of individual foods measured in pounds equivalent to the form sold by retail food stores, combined in terms of average 1967-68 retail prices.
[2]Forecasts.
[3]Excludes fish.

Civilian Per Capita Consumption of Major Food Commodities (retail weight)[1]

	1960	1970	1973	1974	1975	1976	1977	1978[2]	1979[6]
					Pounds				
Meats	134 1	151 4	142.6	152.5	145 4	155 3	154 6	149.3	145.8
Beef	64 3	84 1	81.1	86 4	88 9	95 7	93 2	88.9	77 9
Veal	5.2	2 4	1 5	1 9	3 5	3 3	3.2	2 5	1 7
Lamb and mutton	4.3	2.9	2 4	2.0	1.8	1 7	1.5	1 4	1 4
Pork	60 3	62.0	57.6	62 2	51 2	54 6	56.7	56 5	64 8
Fish (edible weight)	10 3	11 8	12 9	12 2	12 3	13 0	12.8	13.4	13.7
Poultry products:									
Eggs	42 4	39 5	37 3	36 6	35 4	34.8	34 5	35.2	35.8
Chicken (ready-to-cook)	27 8	40 5	40.7	41 1	40.6	43 3	44 9	47.7	51 8
Turkey (ready-to-cook)	6.2	8.0	8 5	8.9	8 6	9 2	9.2	9.4	10 2
Dairy products:									
Cheese	8 3	11.5	13 7	14 6	14.5	15.8	16 4	17 3	17.9
Condensed and evaporated milk	13.7	7 1	6 0	5 6	5.0	5.0	4.5	4 2	4 4
Fluid milk and cream (product weight)	321.0	296 0	293 0	288 0	291 1	292 0	288.4	285.9	284 2
Ice cream (product weight)	18.3	17 7	17 5	17.5	18 7	18.1	17.7	17 8	17 7
Fats and Oils—Total fat content	45 3	53 0	54.3	53.2	53 4	56.1	54 4	55 6	57 6
Butter (actual weight)	7.5	5 3	4 8	4 6	4.8	4 4	4.4	4 5	4 5
Margarine (actual weight)	9.4	11 0	11 3	11 3	11 2	12 2	11 6	11 4	11 6
Lard	7.6	4 7	3 4	3 2	3 0	2 7	2 3	2 2	2 3
Shortening	12.6	17.3	17 3	17.0	17.3	18 1	17 6	18.2	19.2
Other edible fats and oils	11.5	16.2	20.8	20.3	20.3	22 0	21.6	22 6	23 4
Fruits:									
Fresh	90 0	79.3	74.2	76 9	81.3	83 7	79.6	81 6	80 5
Citrus	32.5	28 1	26 9	27 1	28 7	28.5	25.2	26.3	24 3
Noncitrus	57.5	51.2	47.3	49 8	52.6	55 2	54.4	55.3	56.2
Processed:									
Canned fruit	22 6	23.3	21.3	19 6	19.3	19 2	20.0	19.0	18.0
Canned juice	13 0	14.6	15 9	14 6	16.2	16 2	15.6	17.4	17 5
Frozen (including juices)	9 1	9 8	11 2	11.2	12 6	12.2	11.8	11.3	11 8
Chilled citrus juices	2.1	4 7	5 3	5.2	5 7	6 2	5.8	6 2	6 4
Dried	3.1	2 7	2.6	2 4	3.0	2 6	2.5	2.0	2 3
Vegetables:									
Fresh[3]	96 0	91 0	93.0	95 0	94 1	94.2	91.8	93 3	97.2
Canned	43.4	53 0	57.7	56 9	55 1	55 7	56.2	54.1	55.0
Frozen (excluding potatoes)	7.0	9.7	10 7	10 2	9 7	10.2	10.3	10 8	11 1
Potatoes[4]	105.0	115.3	114 4	112 3	120.3	114.4	119.8	122 9	123 0
Sweetpotatoes[4]	6.5	5 2	4 6	4 9	5.0	4 9	4.5	5.0	
Grains:									
Wheat flour[5]	118.0	110 0	112 0	110 0	113.0	118.0	114.0	114.0	112.0
Rice	6 1	6 7	7 0	7.6	7.7	7 2	7 6	5.8	8 9
Other.									
Coffee	11.6	10 4	10 1	9.5	9.0	9 4	6.7	7.9	7.8
Tea	.6	7	.8	8	.8	.8	.9	.7	7
Cocoa	2.9	3.1	3.4	3.0	2 6	3 0	2.7	2 7	2 7
Peanuts (shelled)	4.9	5.9	6.6	6 4	6 5	6 3	6.6	6.6	6 6
Dry edible beans	7.3	5.9	6 4	6.7	6.5	6.3	6.1	5.9	5 9
Melons	23 2	21.2	19 8	17.1	17.3	18.6	19.3	20.4	18 9
Sugar (refined)	97 4	101.8	101 5	96.6	90 2	94 7	95 7	93.1	91.6

[1]Quantity in pounds, retail weight unless otherwise shown. Data on calendar year basis except for dried fruits, fresh citrus fruits, peanuts, and rice which are on a crop-year basis.

[2]Preliminary.

[3]Commercial production for sale as fresh produce.

[4]Including fresh equivalent of processed.

[5]White, whole wheat, and semolina flour including use in bakery products.

[6]*Forecast.*

Note: Historical consumption and supply-utilization data for food may be found in *Food Consumption, Prices, and Expenditures*, Ag Econ Report 138 and annual supplements, ESCS, USDA.

Personal Consumption Expenditures: Major Items

	1976	1977	1978	1977 III	1977 IV	1978 I	1978 II	1978 III	1978 IV	1979 I	1979 II	1979 III[1]
						Billions - Current Dollars[2]						
Food, excluding alcoholic beverages	200.2	217 9	240.7	219.0	225.0	230 9	237 2	243.1	251.7	260.0	263 1	267.7
For use at home	160 9	162.7	179.3	163.6	167.8	172 3	176 8	180 8	187.3	193.3	197.7	201.2
Food away from home	49.3	55 2	61 4	55.5	57.2	58.6	60.4	62 3	64 4	66.8	65.4	66.6
Nondurables excluding food	243.7	263.4	289 9	264.0	274 2	275.0	284.6	293.6	306 4	311 1	317 7	336.4
Clothing and shoes	75.9	82.4	91 2	82.8	87.9	85 4	89 9	92.7	96.8	95.5	96.9	100 9
Gas and oil	42 9	46 7	50 9	46 4	47.3	48 1	49 0	51 5	55 0	58.4	60.2	68 1
Fuel oil and coal	12 0	13 1	14 0	12.9	13 0	14 6	14.4	13 4	13 6	15.4	17.2	20.2
Alcoholic beverages	26 8	28.8	31.0	29.0	29 4	29 7	30.5	31.5	32 2	32 9	33.3	35.0
Other	86.0	92.5	102 9	92 9	96.4	97.2	100 8	104.7	108 9	108.9	110.1	112.2
Durable goods	157.4	178.8	200.3	178.9	189.5	185.3	200 4	203 5	212 1	213.8	208.7	212.5
Motor vehicles and parts	70 0	81.6	91.2	80.5	83.7	84.1	93.5	92.4	94.9	97 7	89.1	88.8
Furniture and household equipment	64 0	70.9	77 6	71.7	74.0	72.4	76.5	78 9	82.7	82.1	84.2	87.5
Other durables	23.4	26.3	31 5	26.8	28.7	28.8	30.4	32.2	34.5	34 0	35 4	36.2
Services	488.5	549.8	619.8	558.7	574.1	596.0	609.1	629.1	645 1	669 3	686.0	711.2
Housing	166.2	187.3	212.2	190.0	196.1	202 6	208.9	215.0	222.1	229.5	238.3	245.0
Household operation	72.8	82.0	91.4	84.0	84.8	90.4	88 9	92.5	93.7	99.2	89.1	102.6
Transportation	37.9	43.6	49.2	44.4	46.6	47 6	48 7	49 7	50.8	52.9	54 5	66.8
Other	211.7	236 9	267.2	240.3	246.6	255.5	270.6	271.9	278.5	287.7	295.4	306.8
Total personal consumption expenditures	1,089.9	1,210.0	1,350.9	1,220.6	1,259 7	1,287.2	1,331.2	1,369.3	1,416.4	1,954.2	1,475.8	1,627.7
Total disposable income	1,184 5	1,305.1	1,468 4	1,323.2	1,361 2	1,395.0	1,437.3	1,476 5	1,524.8	1,572 2	1,601.0	1,638.4
						Billions - 1972 Dollars[3]						
Food excluding alcohol	137 7	143.4	143.4	142 8	144.9	144 6	142.4	143.1	145.3	143.8	143.2	146 5
Food for use at home	102.6	106.7	106.3	106.7	108 2	107.5	105.1	105.7	107.1	105 6	106.8	109.5
Food away from home	35 1	36 7	37 1	36.1	36.7	37 1	37.3	37.4	38.2	38.2	36.4	36.0
Nondurables excluding food	183.8	189.1	199 9	189 3	196.1	192.7	197.0	201 6	206.6	204.3	200.9	203.6
Durables	126.6	138.2	146.7	138.2	142 4	139 3	147.8	147.5	152.1	150.2	144.8	146.3
Services	372.5	390.8	410 8	393 3	398 5	406.1	407.6	413.1	416.4	423.1	426.0	430.6
Total personal consumption expenditures	820.6	861 7	900.8	863.7	880.9	882.7	894.8	906.3	920.3	821.8	915.0	925.9
Disposable personal income	891.8	929.5	972.6	936.3	951.8	956.6	966.1	976.2	991.5	996.6	993.0	993.5

[1] Preliminary
[2] Quarterly data are adjusted at annual rate.
Source U.S. Dept. of Commerce. Totals may not add due to rounding

Market Basket of Farm Foods

	Annual	1978[1]			1979		
Market basket:[2]	1978	II	III	IV	I	II	III
Retail cost (1967 = 100)	199.4	199.1	204 2	206 2	217.4	223 8	224 3
Farm value (1967 = 100)	207.4	211.9	213 7	214 7	237 4	236.0	227.0
Farm retail spread (1967 = 100)	194 5	191 3	198.4	201 0	205.4	216 4	222 7
Farm value/retail cost (%)	39.3	40.2	39 5	39.3	41.2	39.8	38.2
Meat products:							
Retail cost (1967 = 100)	206.8	207.8	213.5	217.4	236 8	250.0	241 3
Farm value (1967 = 100)	211 5	215 8	216.2	223 8	259.3	255.2	230.6
Farm retail spread (1967 = 100)	200.6	197.5	209.9	209.1	207 7	243 3	255 2
Farm value/retail cost (%)	57 8	58 6	57.2	58 1	61.8	57.6	54 0
Dairy products:							
Retail cost (1967 = 100)	185 5	183 3	186.7	193.6	200.2	203.9	208.7
Farm value (1967 = 100)	204 3	199 6	206 6	217.9	224 6	228 7	238.2
Farm-retail spread (1967 = 100)	189.2	189.1	189 4	172.3	178.9	182.3	184.8
Farm value/retail cost (%)	51.3	50.7	51 5	52.4	52.2	52.2	52 7
Poultry:							
Retail cost (1967 = 100)	172.9	172.9	180.7	177 0	185.6	188.4	179.4
Farm value (1967 = 100)	202.7	209.8	221.2	197.0	210.7	212.7	184 5
Farm-retail spread (1967 = 100)	144 1	137.2	141.8	157.6	161.4	164 9	174.3
Farm value/retail cost (%)	57.6	59.7	60.2	54 7	55 8	55.5	50.6
Eggs:							
Retail cost (1967 = 100)	157.8	146.6	157.5	168.5	181.3	171.4	166.1
Farm value (1967 = 100)	178.7	154 5	181 3	195.1	215.0	191 9	189 6
Farm retail spread (1967 = 100)	127.5	135.1	123.1	130.2	132.5	141.7	132.2
Farm value/retail cost (%)	66 9	62.3	68.0	68.4	70.1	66.2	67.4
Cereal and bakery products:							
Retail cost (1967 = 100)	199.9	197 4	202.7	206 5	211.9	216.2	223.1
Farm value (1967 = 100)	163.9	169.9	164.2	164.9	168.6	184.5	202.8
Farm-retail spread (1967 = 100)	207.3	203.1	210.7	215.2	220.9	222.7	227.3
Farm value/retail cost (%)	14.1	14.8	13.9	13.7	13.6	14.6	15 6
Fresh fruits:							
Retail cost (1967 = 100)	230.1	228.8	262.6	230.7	225 8	259.8	293.9
Farm value (1967 = 100)	228.8	257.7	269.3	207.4	206.8	233.7	289.7
Farm-retail spread (1967 = 100)	230.7	215.8	259.8	241.2	234.0	271.5	304.7
Farm value/retail cost (%)	30.8	34.9	31.8	27.9	28.4	27.9	28.4
Fresh vegetables:							
Retail cost (1967 = 100)	216.2	238 2	219.4	201.3	240.0	220.1	211.1
Farm value (1967 = 100)	216.3	271.2	226.2	179.7	252.2	201 8	190.4
Farm-retail spread (1967 = 100)	216.2	222.7	218.1	211.5	234.3	228.7	220.9
Farm value/retail cost (%)	32.0	36 4	33.0	28.5	33.6	29.3	28.8
Processed fruits and vegetables:							
Retail cost (1967 = 100)	208.7	206.2	209.9	215 6	221.7	224.5	229.2
Farm value (1967 = 100)	213.3	221 6	226.3	230.2	233 6	238.0	241.3
Farm-retail spread (1967 = 100)	207.7	202.8	206.3	212.3	219.0	221.5	228.5
Farm value/retail cost (%)	18.5	19.5	19.5	19 4	19.1	19.2	19.1
Fats and oils:							
Retail cost (1967 = 100)	209.6	207 8	214.5	216.9	218.9	224.7	229.3
Farm value (1967 = 100)	257.4	273.5	268.1	255.4	272.8	284.8	289.4
Farm-retail spread (1967 = 100)	191.1	182.5	193.8	202.1	198.2	201.6	206.1
Farm value/retail cost (%)	34.1	38.6	34.7	32.7	34.6	35.2	35.1

[1]Quarterly data revised.

[2]Market basket statistics are based on the weighing structure of the Consumer Price Index for all urban consumers (CPI U). Retail costs are based on indexes of retail prices for domestically produced farm foods from the CPI U published monthly by the Bureau of Labor Statistics. The farm value is the payment to farmers for quantity of farm product equivalent to retail unit, less allowance for byproduct. Farm values are based on prices at first point of sale and may include marketing charges such as grading and packing for some commodities. The farm retail spread, the difference between the retail price and the farm value, represents charges for assembling, processing, transporting, and distributing these foods

Per Capita Food Consumption Index[1]

	1960	1970	1973	1974	1975	1976	1977	1978[2]	1979[7]
					1967 = 100				
Meat, poultry, and fish	89.7	104.7	100.4	105.8	102.7	109.8	109.2	107 2	105 9
Meat	92.1	104.0	97.7	104.6	101.2	107.9	107.0	103.3	99.9
Poultry	75.3	107.0	108.7	110 6	108.1	116.0	119.4	125.7	136.7
Fish	96.9	110.6	121.2	114.6	113 7	120.8	119.4	124.5	128.2
Eggs	104 2	97 0	91.6	89.9	87.0	85.5	84.8	86.5	86.5
Dairy products[3]	103.4	99 3	100.6	99.1	99.8	101.6	101 0	101.5	102.5
Fats and oils	96.1	105.9	107.9	104.9	105.5	109.8	106.5	111.9	114.3
Animal	116.7	87.7	73.0	72.4	65.2	60 3	61.0	63.3	72.3
Vegetable	82.7	119.3	133.6	128.9	135.3	146.4	140.2	147.9	145.2
Fruits[4]	106.6	103.0	99.6	99.2	106.8	108.4	106.7	106 4	106.1
Fresh	114.0	102.0	94.2	97.0	105.6	108.2	106.8	108.5	105 1
Processed	98.3	104.3	106.5	102 1	107.9	108.6	108.5	106.2	107.3
Vegetables[5]	99.2	101.9	105.3	104.5	104.2	106.5	105.6	105.8	108 5
Fresh	107.4	100.6	101.8	101 7	102.2	103.8	103.2	104.8	103.2
Processed	83.9	104.1	111.4	109.4	107.7	111.2	109.6	107.6	110.1
Potatoes and sweetpotatoes	79.8	110.3	110.1	109.2	114.0	109.5	112.1	110.1	109.9
Fresh	133.8	95 0	83.5	80.0	90.8	85.9	88.4	89.9	89.9
Processed	52.2	122.3	131.0	132.2	132.2	128.1	130.8	126.0	125.7
Beans, peas, and nuts	94.8	98.0	105.3	101.8	108.6	104.7	101.6	103 2	104.0
Cereal products	102.2	97.7	97.2	95.4	96.0	104.0	100.8	100.9	100.6
Sugar	97.9	106.0	110.6	108.7	105.8	112.8	115.3	113.7	113.5
Coffee, tea, and cocoa	99.6	93.9	97.7	92.1	89.7	91.6	78.5	79.1	77.0
Total food	96.7	102.4	101.7	102.3	101.5	105.8	104.8	104.5	103.9
Animal products	95.5	102.0	98.6	101.4	99.1	103.5	103.0	102.2	101.8
Crops[6]	98.0	102.9	105.2	103.3	104.2	108.4	108.3	106.9	106.3

[1]Civilian consumption only. Quantities of individual foods are combined in terms of 1967-69 retail prices.

[2]Preliminary.

[3]Excludes butter.

[4]Includes melons and baby food.

[5]Excludes soup, baby food, dry beans and peas, potatoes, and sweetpotatoes.

[6]Includes melons, nuts,soup, and baby food in addition to groups shown separately.

[7]Forecast.

Producer Price Indexes, U.S. Average (not seasonally adjusted)

	Annual		1978	1979					
	1976	1977	1978	Nov	June	July	Aug	Sept	Oct	Nov
					1967 = 100					
Finished goods[1]	170.3	180 6	194 6	200 3	213.7	215 8	217 3	220 4	223 7	225 9
Consumer foods	180 2	189.1	106.8	211 7	223 6	224 6	223 2	227.8	226 7	230 5
Fruits and vegetables[2]	178.4	192.2	218.2	207 0	226.2	226.6	241 6	208 2	217 8	216 4
Eggs	179 1	162.0	158.6	177 9	170 7	167 6	166 8	175 4	155 9	178 7
Bakery products	180.0	186 5	201 2	210 9	217 0	218 4	224 3	227 8	228 8	231 0
Meats	173.6	170.7	209.5	211 8	233.7	228 0	215 2	232.7	226 4	229 7
Beef and veal	156.0	157 5	202.2	198 4	254 1	248 1	233.3	257.4	249 8	256 4
Pork	201.4	190.1	219.1	229 1	198.0	191 9	183 7	196 8	188 2	188 1
Poultry	166.2	173 3	194.0	188 9	179 2	179.7	170 9	172.6	164 6	190 0
Fish	272 4	294.3	313.0	343 7	393.0	398.5	388.5	390.4	397.3	381 5
Dairy products	168.5	173.4	188.4	199 6	208.3	209 0	215 2	218.3	218 2	219 0
Processed fruits and vegetables	170 2	187 3	202 6	216 3	221 4	223.1	224.4	225 0	223 3	222 5
Refined sugar[3]	n.a.	n.a.	103.9	113 6	113.7	113.7	115.1	115.5	116 8	119 8
Vegetable oil end products	174.2	198 6	209.4	210 4	219 7	225 5	229 8	233.0	232.6	232 0
Consumer finished goods less foods	161 8	172.1	188.9	189 0	205.2	208.4	212 1	215.9	220.6	222 4
Beverages, alcoholic	138.1	139.7	148.2	153 6	160.8	161 1	162.8	163 3	165 0	166 1
Beverages, nonalcoholic	187 2	198.1	211 6	218 8	226 5	228 0	229.4	233.0	233 1	232.9
Apparel	139.9	147 3	152 4	155 3	160.0	180 1	161 1	181 6	162 1	162 9
Footwear	158 9	168.7	183.2	192 2	219.7	222.3	225 6	226 2	226.9	227 3
Tobacco products	163.0	178 8	198 5	203 7	213 9	214 6	221.1	221 7	221.9	221 9
Intermediate materials[4]	189.3	201.7	215 5	222 0	239.8	244.2	247.1	250 7	254 6	256 1
Materials for food manufacturing	180 6	181 7	202.3	207 9	222.2	228 4	225 1	228.6	225.3	227 7
Flour	147.8	118.9	141 5	151 7	171.4	187 3	183 6	184.0	183 9	186 8
Refined sugar[5]	n.a.	n.a	109.3	113 6	117.7	118.3	119.3	118 6	119 3	122 7
Crude vegetable oils	162.5	197.5	219 2	218 5	250.1	264.4	258 2	255 4	240.7	235 7
Crude materials[6]	205 1	214.4	240.2	248 4	283 0[4]	287 3	281 7	287 9	289.2	290 8
Foodstuffs and feedstuffs	190.1	190.9	215 4	220 9	248.2	254.1	243 6	248.7	247.1	246 4
Fruits and vegetables[2]	178 4	192 2	218 2	207 0	226.2	228.6	241.6	208.2	217 8	216 4
Grains	205.9	165.0	182.5	189 0	218.7	247.4	229.1	224.4	229.0	226 6
Livestock	173.3	173.0	220.1	222 4	264 0	256 0	240.2	256.4	251 7	248 8
Poultry, live	166.9	175 4	199 8	192 4	182.9	183.8	171 9	173.5	162 0	185 5
Fibers, plant and animal	223.9	202.3	193.4	211 5	219.5	207.6	207.9	211.3	212.9	215 4
Milk	201.2	202 6	219.7	235 8	243 8	247.6	250 0	258 5	258 5	262 5
Oilseeds	204.4	236.7	224.1	228 7	258.7	261 8	252.1	242.2	235 8	229 5
Coffee, green	305.5	505 1	378.2	374 2	396.1	498 7	486 0	485 1	492 7	476.8
Tobacco, leaf	164.2	176.1	190 8	201 6	206.3	199.8	208 8	214 4	n.a	216 6
Sugar, raw cane	185.5	149.5	190.2	192 5	206.5	208.4	216 2	216 1	223 7	222 7
All commodities	183.0	194.2	209.3	215 7	233.5	236.6	238 1	241.7	245.2	246.9
Industrial commodities	182.4	195 1	209.4	216 0	234.0	237.2	240.3	243.8	248.5	250 2
All foods[7]	178.9	186.8	206.5	211.7	223 8	225.0	224 5	228.2	226 8	229 9
Farm products and processed foods and feeds	183.1	188.8	206 7	212 3	229.0	232.0	227 3	231.7	230.6	232 3
Farm products	191.0	192.5	212.7	218 2	242.8	246.8	238 5	241 0	239 5	240 2
Processed foods and feeds	178.0	186.1	202 8	208 2	220.8	223 0	220.3	225.7	224.8	227 1
Cereal and bakery products	172.1	173.2	190.2	196 2	206.3	210.5	215.1	217.7	219.2	222 3
Sugar and confectionery	190.9	177 5	197.8	202 6	211.1	215.7	218 3	217.3	218.8	222 7
Beverages	173.5	200.9	200.1	201 4	208.5	213.7	215 9	217.9	219.2	221 4
Wholesale spot prices, 9 foodstuffs	201.6	208.2	239.1	248 3	256.5	259.3	254 3	259.1	252 3	250 7

[1]Commodities ready for sale to ultimate consumer
[2]Fresh and dried.
[3]Consumer size packages, Dec 1977 = 100.
[4]Commodities requiring further processing to become finished goods
[5]For use in food manufacturing
[6]Products entering market for the first time which have not been manufactured at that point.
[7]Includes all processed food (except soft drinks, alcoholic beverages, and manufactured animal feeds) plus eggs and fresh and dried fruits and vegetables.
n.a. = not available

Per Capita Food Expenditures and Disposable Income, 1929-1978

Year	Disposable Personal Income		Home Use		Away from Home		All Food	
	Current Dollars	1972 Dollars	Current Dollars	1972 Dollars	Current Dollars	1972 Dollars	Current Dollars	1972 Dollars
1929	$676	$1866	$135	$342	$26	$ 69	$160	$431
1930	596	1709	121	303	24	91	146	394
1931	512	1625	97	324	22	95	118	419
1932	389	1395	73	298	18	93	91	391
1933	362	1350	75	304	12	62	95	360
1934	411	1420	81	293	15	69	96	362
1935	456	1544	89	294	17	73	107	367
1936	516	1722	100	324	20	81	119	405
1937	550	1767	105	330	22	90	128	420
1938	500	1637	99	342	22	91	120	433
1939	534	1756	98	345	22	98	120	443
1940	569	1849	101	357	23	104	128	461
1941	690	2084	115	362	26	115	144	477
1942	662	2353	135	353	38	125	173	476
1943	972	2429	149	337	57	146	200	483
1944	1050	2485	155	345	60	188	215	513
1945	1065	2420	167	381	71	187	237	546
1946	1122	2351	209	405	67	183	278	588
1947	1169	2212	240	398	64	135	303	533
1946	1278	2288	252	394	63	126	318	520
1949	1224	2253	239	392	62	127	301	516
1950	1355	2388	241	391	82	124	303	515
1951	1456	2408	286	388	71	131	338	519
1952	1506	2434	275	394	74	134	348	528
1953	1571	2491	274	401	73	136	348	536
1954	1575	2476	277	406	71	131	317	537
1955	1654	2577	281	420	71	130	351	550
1956	1732	2643	287	427	72	131	359	556
1957	1792	2650	299	430	74	129	373	559
1958	1821	2636	306	427	73	125	379	552
1959	1898	2696	312	437	76	128	388	563
1960	1934	2697	311	431	79	127	390	558
1961	1976	2725	312	428	82	130	394	558
1962	2056	1976	310	423	88	133	396	556
1963	2129	2649	311	416	90	133	400	551
1964	2277	3009	325	428	94	139	480	567
1965	2430	3152	344	444	98	141	442	585
1966	2596	3274	368	451	103	142	471	593
1967	2741	3371	372	458	116	138	478	596
1968	2930	3464	396	470	116	145	512	615
1969	3110	3515	417	474	124	144	541	616
1970	3347	619	448	483	131	143	579	626
1971	3567	3714	455	461	139	140	594	621
1972	3836	3837	482	482	143	144	625	629
1973	4266	4062	537	467	161	149	698	615
1974	4647	3973	606	447	162	149	768	596
1975	5087	4025	660	452	205	155	865	607
1976	5507	4136	701	477	230	183	931	640
1977	6020	4271	750	492	255	189	1005	681
1978	6727	4419	827	486	283	171	1110	658

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Personal Consumption Expenditures for Food (1972 Dollars), 1929–1978

	Home Use	Away From Home	All Food	Disposable Personal Inco
			Billion Dollars	
1929	41 6	10 9	52 5	229 8
1930	37 1	11 3	48 5	210 6
1931	38 2	11 8	52.0	201 7
1932	37 2	11.6	48.8	174 3
1933	38 2	7 8	46.0	169 7
1934	37 1	8 7	45.8	179 7
1935	37 4	9 3	46 7	196 6
1936	41 5	10 4	51 9	220.7
1937	43 6	11.6	54.2	227 8
1938	44 5	11.8	56.3	212 8
1939	45 4	12.8	58.2	230 1
1940	47 1	13.7	60.8	244 3
1941	48 3	15.3	83.6	278.1
1942	47 6	16 8	64.4	317 3
1943	46 1	19.0	68.9	332 2
1944	47 8	23 3	71.1	343.9
1945	50 5	20 2	76.7	338.6
1946	57 1	23 0	80.3	332 4
1947	57 3	19.4	76 7	318.8
1948	57 8	18.5	76.3	335 5
1949	58 5	18.9	77.4	336.1
1950	59 4	18 8	78.1	361.9
1951	59 8	20.2	80.0	371.6
1952	61 8	21.1	82.9	382.1
1953	64 0	21.5	85.5	397.5
1954	65 9	21.1	87.0	402.1
1955	69 4	21.5	90.7	425.9
1956	71 9	22.0	93.9	444.9
1957	73 7	22.1	100.9	453 9
1958	74 1	21 7	96.0	459.0
1959	77 4	22.3	99.7	477.4
1960	77 9	23.0	100.9	487.3
1961	78 7	23 8	192.5	500 6
1962	78 8	24.8	193.6	521.6
1963	79 1	25.5	104.8	539 2
1964	82 2	26.0	108.8	577 3
1965	86 3	27.4	113.7	612.4
1966	88 7	27.9	116.6	643.6
1967	91 1	27.5	118.8	669 8
1968	94 5	29.0	123.5	695.2
1969	96 1	29.2	125.3	712.3
1970	96 9	29.3	128.2	741 8
1971	98 6	28.9	128.5	789.9
1972	100 6	30 1	130.7	801 3
1973	97 6	31.3	128.9	854.7
1974	94 8	31.8	126.4	842.0
1975	96 6	33 1	129.7	859.7
1976	102.6	35.0	137 6	899 1
1977	106 6	36.6	142.2	926.3
1978	106 3	37.4	142.7	965.8

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